UNITED STATES DISTRICT COURT
MIDDLE DISTRICT OF TENNESSEE
NASHVILLE DIVISION

BRIAN A., et al.	)	
	)	
Plaintiffs,	)	Civ. Act. No. 3:00-0445
	)	Judge Todd J. Campbell
v.	)	Magistrate Judge Joe B. Brown
	)	
BILL HASLAM, et al.	)	
	)	
Defendants.	)	

NOTICE OF FILING

Pursuant to the Notice as to the Role of the Technical Assistance Committee, dated November 9, 2012 (Dkt. No. 452), Plaintiffs, by their undersigned counsel, give notice of the filing of the Report of the *Brian A.* Technical Assistance Committee on its Evaluation of TFACTS, dated April 2, 2013.

DATED: Nashville, Tennessee
April 2, 2013

Respectfully submitted,

ATTORNEYS FOR PLAINTIFFS:

/s/ Ira Lustbader
MARCIA ROBINSON LOWRY (*pro hac vice*)
IRA LUSTBADER (*pro hac vice*)
MELISSA COHEN (*pro hac vice*)
CHILDREN'S RIGHTS, INC.
330 Seventh Avenue, 4th Floor
New York, NY 10001
(212) 683-2210

/s/ David L. Raybin
DAVID L. RAYBIN (TN BPR #003385)
HOLLINS, RAYBIN AND WEISSMAN P.C.
Suite 2200, Fifth Third Center
424 Church Street
Nashville, TN 37219
(615) 256-6666

/s/ Jacqueline B. Dixon
JACQUELINE B. DIXON (TN BPR #012054)
WEATHERLY, MCNALLY AND DIXON, P.L.C.
Suite 2260
424 Church Street
Nashville, TN 37219
(615) 986-3377

OF COUNSEL FOR PLAINTIFFS:

RICHARD B. FIELDS (TN BPR #4744)
688 Jefferson Avenue
Memphis, TN 38105
(901) 578-7709

ROBERT LOUIS HUTTON (TN BPR #15496)
Glankler Brown, PLLC
Suite 1700, One Commerce Square
Memphis, TN 38103
(901) 525-1322

WADE V. DAVIES (TN BPR #016052)
Ritchie, Dillard and Davies
606 W. Main Street, Suite 300
Knoxville, TN 37902
(865) 637-0661

CERTIFICATE OF SERVICE

I, Melissa Cohen, hereby certify that, on April 2, 2013, true and correct copies of this Joint Notice of Filing and the attached Report of the *Brian A.* Technical Assistant Committee on its Evaluation of TFACTS have been served on Defendants' counsel Martha A. Campbell, Deputy Attorney General, General Civil Division, P.O. Box 20207, Nashville, Tennessee 37202, and Jonathan Lakey, Pietrangelo Cook PLC, 6410 Poplar Avenue, Suite 190, Memphis, TN 38119, electronically by operation of the Court's electronic filing system.

DATED: April 2, 2013

/s/ Melissa Cohen
Melissa Cohen

REPORT OF

THE *BRIAN A.* TECHNICAL ASSISTANCE COMMITTEE

ON ITS EVALUATION OF TFACTS

April 2, 2013

TECHNICAL ASSISTANCE COMMITTEE

Steven D. Cohen
Senior Fellow
Center for the Study of Social Policy
Washington, D.C.

Judith Meltzer
Deputy Director
Center for the Study of Social Policy
Washington, D.C.

Andy Shookhoff
Attorney
Nashville, TN

Paul Vincent
Director
Child Welfare Policy and Practice Group
Montgomery, AL

TFACTS EVALUATION TEAM MEMBERS

John Ducoff
Consultant to the TAC
Flemington, NJ

Jennifer Haight
Senior Researcher
Chapin Hall at the University of Chicago
Chicago, IL

TECHNICAL ASSISTANCE COMMITTEE STAFF

Colleen Gleason Abbott
Susan Bunkowske
Michelle Crowley
Jamie McClanahan
Kelly Whitfield

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Executive Summary

A. Introduction

In August 2010, the Tennessee Department of Children's Services (DCS) implemented its new State Automated Child Welfare Information System (SACWIS), commonly known as TFACTS (the Tennessee Family and Child Tracking System). Several years in the planning, TFACTS was designed with the intention of improving case tracking, data collection, and reporting. TFACTS replaced TNKids, the Department's prior automated case record system, as well as 13 other free standing computer systems that supplemented the information available in TNKids. As has been the case with many SACWIS implementations around the country, the deployment of TFACTS caused significant organizational problems, including the inability of field staff to easily enter and retrieve data, problems with board payments to resource parents, and delays in the ability to produce timely and accurate data for purposes of management and assessing case progress and performance.

The problems with TFACTS design and implementation were highlighted in two reports issued in early 2012: *DCS TFACTS Assessment* (DCS Self-Assessment), reporting the results of an assessment of TFACTS commissioned by DCS; and *Oversight for System Development Projects: A Review of TFACTS Implementation* (Comptroller's Report), reporting the results of a special audit conducted by the Tennessee Comptroller. As the problems with TFACTS continued into 2012, the Plaintiffs, the *Brian A.* Technical Assistance Committee (TAC), and ultimately the Court expressed continuing concerns with the pace of the Department's actions to address design and implementation problems, and with the ability of TFACTS, given these problems, to produce reliable and timely performance data for assessing the state's performance and compliance with the requirements of the *Brian A. v. Haslam* Settlement Agreement.

In response to these concerns, the TAC has conducted an evaluation of TFACTS to determine:

(a) whether TFACTS, as implemented by the Tennessee Department of Children's Services, is able to produce reliable and timely data on the children and families it serves, with particular attention on the ability to provide the data necessary for monitoring compliance with the requirements of the *Brian A. Settlement Agreement;* and

(b) whether the Department's plan for improving and maintaining TFACTS is reasonably designed and adequately resourced both to address the current deficiencies in TFACTS and to ensure that the Department's automated information system is sufficiently functional to meet its internal management needs and allow the Department to exit court jurisdiction within a reasonable time.

The evaluation, conducted over the period from November 1, 2012 to March 31, 2013 and on which this report is based, responds to questions and concerns raised by the Court and by counsel for the plaintiffs at the *Brian A.* status conference convened by the Court on October 24, 2012 and reflects the understandings that were set forth in the *Notice as to the Role of the Technical Assistance Committee* that was filed with the Court on November 9, 2012.

The TAC's evaluation of TFACTS:

- *assessed whether the aggregate data available from TFACTS are sufficiently reliable to support assessment and monitoring of the Department's performance by the Court (with the support of the TAC) and by the Department itself;*

- *examined a broad range of concerns about the current functioning of TFACTS with special emphasis on the perspectives of the end users, particularly case managers in the field.*

In addition to examining the issues with the TFACTS system itself, including current defects and deficiencies, the evaluation also focused on the Department's ability to provide end users with appropriate training, a responsive help desk, and on-site support to assist them in using the system. To the extent that the TAC identified problems with the data and with TFACTS implementation, the TAC also assessed the reasonableness of the Department's approach to addressing those issues.

The TAC's evaluation used multiple methodologies including: (1) validation through a random sample case review of the accuracy of outcome and system performance data derived from the Department's weekly Mega Report and the Chapin Hall Extract[1], both of which are TFACTS data sources used by DCS for management purposes and by the TAC to monitor system performance; (2) a random sample survey of case managers focused on their experiences using TFACTS, on the extent and quality of TFACTS training that they have received, and on the adequacy of the TFACTS Customer Care Center and other end user support functions and activities; (3) retaining an outside consultant with experience in SACWIS system implementation who examined the skill and resource level of the Department's technical and analytic staff assigned to this work, the progress made in identifying and correcting system defects, and the reasonableness of the Department's plans to fix remaining technical and implementation problems; and (4) a review of the issues associated with the OptimalJ data modeling tool.

[1] Chapin Hall develops a series of reports for use by DCS and the TAC, based on analytic files created by Chapin Hall from TFACTS extracts queried from the TFACTS system by DCS report developers. Hereafter in this report, the Chapin Hall reports will be referred to as the Chapin Hall Data and the extracts will be referred to as the Chapin Hall Extract. More detail is provided about both the extracts and the data in Sections Two and Three of this report.

B. Findings and Recommendations

Overall, the TAC has found that the Department has made significant progress in addressing issues related to TFACTS over the past 12 months. While the evaluation has identified areas where problems remain and where additional actions and support are recommended, the TAC has not found any reason to conclude that the system is not functional, or that it is incapable of meeting the Department's information management needs and the related requirements of the Settlement Agreement.

The following are the key findings and recommendations resulting from the TAC's evaluation of TFACTS. Additional detail to support the findings and recommendations is in the body of the report.

1. Over the past 12 months, the Department has assembled a capable and conscientious Information Technology (IT) Leadership Team to address the many system design and implementation challenges posed by TFACTS. That team, with the support of key IT staff, and with appropriate assistance from external contractors, has developed a plan for and made significant progress in addressing and overcoming identified defects and implementation challenges posed by the defects, by inadequate training, and by insufficient early support.

The focus of the IT Leadership over most of the last 12 months has been on stabilizing the system and building the Department's capacity to manage and maintain the system, including developing structures and protocols for the Department's IT operation that are consistent with professional standards. Significant progress has been made in this regard. The Department commissioned a comprehensive review of the challenges with TFACTS implementation and, in order to address those challenges, built a strong information technology leadership and management team in early 2012. Even with constraints on the number of qualified technical staff, the Department has moved with urgency to address as many of the entries on the "All Defects" list as possible, has re-staffed and reinvented its help desk and field customer care support function with experienced staff and a strong customer service orientation, and has begun to enhance TFACTS training to better prepare staff to use the system.

Many of the recommendations from the Comptroller's Report and the DCS Self-Assessment are being or have been implemented. This represents a significant amount of work that the Department has accomplished in a short time, and is reflected in the case manager survey findings that most case managers are now reasonably comfortable entering information into the system and retrieving information necessary to do their work. In addition, many case managers identified aspects of TFACTS that supported and facilitated their work.

2. The information available from individual TFACTS case files and from aggregate reports built from extracts of data from TFACTS, in combination with the other sources of information that the TAC has relied on and continues to rely on to understand DCS performance and the experiences of Brian A. class members and their families, is sufficient to allow the TAC to meet its monitoring responsibilities to the parties and the Court.

Through its case review, the validation work conducted by TAC monitoring staff and the ongoing data validation done by Chapin Hall researchers, the TAC has verified that the DCS Mega Report used by the TAC in its monitoring and reporting accurately reflects the case file information as it has been entered by workers into TFACTS for the necessary demographic, legal and placement information. In addition, because of the overlap of the Mega Report and the Chapin Hall Extract, the TAC was able to verify that the Chapin Hall Extract accurately captures the information as it was entered into TFACTS. This validation work has satisfied the TAC that case-specific information properly entered by caseworkers into the electronic case file system can be accurately retrieved. Through its analysis of TFACTS reports and other monitoring methods, the TAC is able to accurately assess DCS performance on the *Brian A.* requirements and continues to be able to report comprehensively on DCS performance to the parties and the Court.

3. As of March 31, 2013, for many of the Settlement Agreement provisions for which TFACTS reporting was not available in the June 2012 Brian A. Monitoring Report (referred to as "Appendix A reports") relevant aggregate TFACTS reporting of comparable or better quality than had been produced under TNKids is available and has been validated by the TAC.

The majority of the reports listed in Appendix A of the June 2012 Monitoring Report (*Appendix A reports*) are now available. For those remaining provisions for which relevant TFACTS reporting is not available and/or has not yet been validated by the TAC, the TAC has developed other sources of information sufficient to allow the relevant reporting in its upcoming monitoring report.

4. As implemented, TFACTS currently satisfies all but one of the specific Settlement Agreement requirements regarding the Department's maintenance of a statewide computerized information system.

Section X of the Settlement Agreement requires that the Department maintain a statewide computerized information system that:

- is accessible in all regional offices;
- ensures user accountability;

- uniformly presents the Adoption and Foster Care Analysis and Reporting System (AFCARS) elements;

- provides an immediately visible audit trail to the data base administrators of all information entered, added, deleted or modified; and

- has necessary security to protect data integrity.

TFACTS is currently accessible in all regional offices; requires distinct, identifiable login passwords for each end user based on their assigned functional roles, which allows for accountability for work done in the system; and includes all of the federal AFCARS elements and supports AFCARS reporting. The remaining two specific requirements, the audit trail and security to ensure data integrity, were identified as deficiencies in the Department's internal assessment. The Department reports that it has now built audit trail functionality into the redesigned data warehouse, which will track all information entered, added, modified, or deleted. With this addition, the Department reports that every change to data will be recorded in chronological order for auditing by data base administrators. The Department has also taken several steps to ensure that the system maintains necessary security, including addressing defects in security profiles that were the result of design defects in the earlier stages of implementation. The Department reports that it intends to contract with an independent security vendor to provide additional vulnerability/penetration testing during the first part of 2013 to further meet the security requirement.

5. Early implementation of TFACTS provided insufficient attention to the needs of case managers and other end-users for hands-on training and support. However, these issues have begun to be addressed through reorganized and better resourced efforts both to help staff learn how to use to the TFACTS system and to assist staff in navigating and solving problems.

The Department's reinvented Customer Care Center and the regional Field Customer Care Representatives (FCCRs) have done a good job of responding to day-to-day TFACTS problems experienced by case managers and other field staff, and helping the IT staff understand those problems and fashion both short and long term solutions to those problems.

In addition, the Department has revised its pre-service training to better prepare staff to use TFACTS and to cover areas that have been identified by the field as particularly challenging. Special "ad hoc" training is now delivered to the field to respond to particular TFACTS challenges as they arise. With regard to TFACTS training, while there have been significant improvements, the Department needs to plan for and deliver additional on-site training to new and current workers to continue to improve worker's knowledge of and comfort with the new

system, and to provide real-time assistance in those areas where workers are struggling. The Department has decided to combine the roles of the Customer Care Center Manager and TFACTS Program Manager, and has appointed a very experienced and strong lead to serve as both. Even with the quality of the candidate in that role, however, it appears that such a workload may be impossible for one person to manage. The Department should consider that approach carefully going forward to ensure that this joint role can be successful. Moreover, the Department currently has only three TFACTS trainers for the entire state. Given the many training needs expressed by both case managers and FCCRs, three may be insufficient. The Department should consider expanding this number.

6. Notwithstanding the efforts of the last year, many case managers remain frustrated by aspects of the IT system which they see as barriers to case practice, including technical problems which slow down their ability to enter information and difficulty in printing required reports from the system.

In the TAC's survey of case managers, identified challenges fell into one or more of the following categories: (1) being "kicked out of TFACTS;" (2) the system being "slow;" (3) difficulty printing and generating of reports/forms from TFACTS; (4) frustration with the cumbersomeness of using the permanency plan module, especially in cases involving sibling groups, and the length and complexity of the printed plan that it creates; and (5) the system not being particularly user friendly in key respects, requiring multiple "mouse clicks" to move through the system, and having some areas in which there is still some fragmentation of information and/or requirement of redundant data entry.

It is likely that the causes for some of these staff frustrations are external to TFACTS including computers that are old and slow; internet connections that are insufficiently strong or fast, and problems with the Department's servers.

Nonetheless, in order for the system to perform at optimal levels and to support quality case practice, the Department needs to both identify the extent of the issues and the causes and take steps to quickly resolve them. There is little that is more frustrating for a worker than to invest precious time and effort in documenting information in the system only to have performance issues prevent that information from being saved, requiring the worker to start from scratch. The Department has indicated that it has begun the work on improving system performance and implementing key enhancements. The Department, however, currently has limited technical staff to perform this work. The Department should obtain the necessary technical resources, by contracting with a vendor if necessary, to ensure that these key issues and enhancements can be addressed with great urgency.

7. While the Department is making good progress on resolving the issues on its "All Defects" list, it must invest with equal urgency in the "enhancements" which are essential to improve the system's overall performance.

In response to the Comptroller's Report and the DCS Self-Assessment, both of which highlighted the significant number of application defects, the Department focused on resolving those defects in order to move the application forward. As Information Technology professionals, however, they focused on the technical meaning of the term "defect," which describes when the application was not coded as it had been designed (*i.e.*, it has a "bug") as distinguished from an "enhancement" which describes what is needed when the application correctly matches the design, but the design does not meet the need of the field and program staff. While resolving defects is meaningful progress, it can ring hollow to field and program staff using an application that was designed incorrectly. This definitional miscommunication can lead to field and program staff feeling that IT staff are not responding to their business needs, which can create more challenges around implementation. The Department has indicated that it has begun some of the work to prioritize enhancements, pivoting from stabilization and defect remediation to enhancement activities to address some of the most common user complaints about TFACTS. This includes projects to tie parts of the application more closely to the work of end users and to make parts of the application easier to use. It is essential that sufficient resources be directed to this work so that high priority enhancements from the perspective of end-users can be quickly accomplished.

8. The Department's approach to addressing the OptimalJ concerns is reasonable and appropriate.

Facing the challenges caused by the improper use of OptimalJ during development and the resulting deficiencies in TFACTS, the Department acknowledged that it did not have enough staff with sufficient expertise in the use of OptimalJ to even understand the full nature of the deficiencies, let alone fix them. The Department took the eminently reasonable step of hiring the vendor who built the tool—who of course has the most knowledge of its use—to identify and fix all of the OptimalJ deficiencies. The vendor's assessment is complete and the remediation work is targeted for completion by June 30, 2013. The Department has also begun working with that same vendor to ensure that DCS can migrate TFACTS to supported environments, again a reasonable approach given the vendor's expertise. These approaches should provide the Department with several additional years to address the long-term question of whether, and, if so, how, to migrate away from OptimalJ.

Although the Department has not yet reached a final decision regarding its approach to OptimalJ, the TAC nonetheless believes that it is in the Department's interest to migrate away from OptimalJ. The TAC also concurs with the recommendation from the independent IVV

contractor (Gartner) that the Department seek proposals to assess costs, risks, and timing from Information Technology vendors who can do the work of that transition. To be clear, however, the TAC only believes this plan is reasonable because, as discussed at length in this report, there is no indication that the OptimalJ issues are impacting the reliability and accuracy of TFACTS data. If there were, the TAC would have strongly recommended that DCS adopt the most expeditious approach to eliminate the OptimalJ code altogether, regardless of the cost. Going forward, the TAC will continue to monitor the progress on OptimalJ as well as the possibility that these issues could impact the Department's ability to provide accurate and timely data.

9. Moving forward, the Department needs to adopt a more holistic and coordinated departmental approach to information technology, data management, and data quality by aligning the work of information technology, data analysis, and field operations staff.

While the recent work to address the TFACTS challenges has had many strengths, the Department's approach has had too narrow a lens. The initial priorities of the IT staff in stabilizing the system and responding to the fiscal module problems necessarily resulted in less time and attention being paid to addressing some of the design flaws that were adversely affecting the field's experiences with TFACTS and to developing the reporting referred to in Appendix A of the June 2012 Monitoring Report. Moreover, because much of the IT intensive work of stabilizing the system could be efficiently carried out with limited interactions between the IT staff and the field and Central Office program staff, the Department has not developed an effective process for communicating and collaborating among all three.

The challenges TFACTS presented (and continues to present) are not solely related to the Department's information technology function and staff, which is how the Department has viewed them, but relate also to the Department's use of data for management, for communicating about its work, and ultimately for ensuring that children and families are served well. In assessing its challenges, the Department focused almost exclusively on the information technology issues and did not prioritize the work necessary to ensure that it was producing timely and accurate aggregate data, including the *Brian A.* reports. As a result, the Department did not sufficiently focus on its critical data quality needs.

The Department's biggest remaining challenges related to TFACTS functionality and reporting are not so much technological challenges, but rather challenges in moving from a "siloed" and "chain of command" approach for identifying and responding to the IT needs of the field to a "teaming" approach. Many of the problems with TFACTS, whether with the design of a particular TFACTS field or with the quality/utility/accuracy of TFACTS reports, are the result of miscommunication and misunderstanding. Sometimes that is a misunderstanding by the IT staff of the realities of the practice that the application is intended to support, or of the purpose a report is supposed to serve, or of the key questions that the report is intended to answer.

Sometimes it is the result of well-intentioned, but insufficiently thought out instructions given by program staff to IT staff. The IT staff needs help getting a good understanding of what the field needs, helping the field understand the options available to meet those needs, and helping the field prioritize those needs so they can be appropriately sequenced and resourced. This requires a structure that facilitates productive discussion and informed decision-making about IT priorities. And it likely requires facilitators who have one foot in the field practice world and the other in the IT world. Because of the time that has passed since the business process specifications were developed and lessons learned over the past 12 months, this structure—and the work it will oversee—is critical to ensure that TFACTS will more effectively support the Department's work.

Unfortunately, in the past year, DCS has not organized, directed, or aligned the efforts of its information technology, data analysis, and field staff to ensure that communication. Until the end of the year, even key leaders in the Department were unclear regarding which staff in the Department had overall responsibility for data quality. This organizational responsibility for data quality was only made explicit in December 2012, two and one-half years after the transition to TFACTS and months after data quality became a significant issue for the Court and the TAC. And even with the assignment of responsibility now clear, the Department has not ensured that all of the work across all of the functional areas of the Department has been aligned and coordinated to achieve maximum efficiency and effectiveness.[2]

[2] The Department has reported that it either has or intends to adopt a number of processes to better manage these challenges going forward, most notably the Change Control Board (CCB) and the Management Advisory Committee (MAC). The CCB is a committee of OIS leadership (including the Director of Customer Service and IT Support, who largely acts as an advocate for end users) that is envisioned to serve as an initial gatekeeper on requests to modify and enhance TFACTS. If the CCB approves the request, it will be sent to the MAC, which is comprised of all of the Department's leadership at the Deputy Commissioner level, to set priorities. The Department envisions that the MAC will serve as the vehicle for shared ownership of TFACTS at the executive level, which will allow the IT staff to take direction from the end users of the system. Approved and prioritized projects, including enhancements to TFACTS, will receive the support of the Department's handful of project management staff. While these management changes sound promising, they have been largely dormant during the past year while OIS's work priorities were set based on the Comptroller's Report and the DCS Self-Assessment. The Department should execute these processes vigorously and continuously assess them to ensure that they are having the desired impact of making the necessary modifications and enhancements to TFACTS to support the work of the field and the critical need for the field leadership to have accessible aggregate data reporting for management purposes. Moreover, it does not currently appear that the Department has adequate project management staff to support this effort; the Department must assess that capacity and ensure that it has adequate resources in that regard.

SECTION ONE: BACKGROUND

A. Challenges Commonly Faced by States in the Development and Implementation of Statewide Automated Child Welfare Systems

The federal Administration for Children and Families (ACF) provides funding to states for the development, implementation, and ongoing operation of a "Statewide Automated Child Welfare Information System," or "SACWIS" system.[3] A SACWIS system "is a comprehensive, automated case management tool that meets the needs of all users," including caseworkers, supervisors, administrators, and provider staff.[4] Federal support for state implementation of SACWIS systems is intended to ensure that states are able to generate reliable data regarding the experience and outcomes of children in foster care, to assist the federal government with nationwide longitudinal analysis of child abuse and neglect, and to facilitate the ACF's assessment of the performance of state child welfare agencies.[5] A large majority of states, including Tennessee, have undertaken the transition to a SACWIS system. As is the case with many large information technology systems, those implementations are often very expensive, difficult, and time consuming because of the complexity of the systems and the significant amount of organizational change involved at all levels of the child welfare agencies that implement them.

A successful SACWIS system implementation requires a *thorough design process*, in which state staff must provide detail regarding the manner in which the state operates (or, as is often the case in child welfare agencies, the manner in which the state intends to operate); a *comprehensive development process*, in which information technology experts build the system to the design specifications; and the *change management and implementation process*, including staff training and building the internal capacity and expertise to support the system on an ongoing basis. Poorly executing any of those elements can lead to tremendous challenges for staff and administrators as they transition to use a new SACWIS system.

Adding to the challenges, a SACWIS system itself is not one monolithic entity. It is, instead, a highly complex system comprised of many moving parts that require varied sets of knowledge, abilities, and skills to develop, implement, and support. A SACWIS system typically replaces not just a single predecessor system, but rather multiple systems that grew over the years to support various aspects of the agency's work.

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[3] http://www.acf.hhs.gov/programs/cb/resource/about-sacwis-tacwis

[4] *Id.*

[5] http://www.acf.hhs.gov/programs/cb/monitoring

At the risk of oversimplifying a highly complex landscape, at the most basic level a SACWIS system includes four core parts:

- the ***application***, which is comprised of the screens that end users see;

- the ***database***, which stores all of the data entered in the application in a series of tables (similar to spreadsheets);

- the ***reports***, which are essentially computer programs that are created to go into the series of tables, retrieve the data stored there, and present the data in a chart or table format for viewing; and

- the ***data***, or the information (*e.g.*, name, date of birth, gender, or placement history) entered into the application by end users, typically child welfare staff.

Building and maintaining the first three of those—the application, the database, and the reports—requires a number of different technical skill sets. As a result, in order to build and maintain a SACWIS system, a child welfare agency will often need a variety of skilled staff, each of whom will have different responsibilities over time for distinct parts of the system.

The fourth element—the data—introduces an additional level of complexity. With regard to the data in the system, the information technology (IT) staff only have a custodial role; that is, they are responsible for building and maintaining the application and the database to store the data. To use a metaphor, the information technology staff are responsible for building a filing cabinet with a series of structured drawers, shelves, and file folders for storage. The owners of the data are the end users that record the data in the system, and, as a result, the end users are ordinarily responsible for putting the correct information in the correct places in the system. An IT staffer is in no position to look at data in the system to verify that it accurately reflects the casework performed in the field—*e.g.*, a technical staffer who can write the system code is not in a position to know if a worker has conducted a timely face-to-face visit with a child in foster care. It is incumbent on end users to ensure that the information is properly recorded in the system and, as a result, state child welfare agencies need to simultaneously develop skills and processes to ensure the accuracy of the data in the system.

Recognizing the complexity of this effort for front-line staff, many (if not all) child welfare agencies have designated data analysis staff whose jobs are to identify data discrepancies and potential issues with the accuracy and reliability of the data. These staff, with discrete skills distinct from IT staff, are often charged with analyzing aggregate data to discern internal and external trends facing the agency as well as to assess the agency's performance against its goals. As part of those efforts, data analysis staff will often find anomalies in the data that they can then

discuss with field staff in order to diagnose any problems with data accuracy. An explanation for an anomaly can be as simple as a data entry error made by an individual worker or as significant (from an IT perspective) as a defect in the system that precludes workers from entering the data properly. Often these data analysis units will identify incorrect data and send it out to the field staff to clean up the data, recognizing that the field staff are in the best position to know the information that will correctly reflect the reality of the case practice. In most cases, the application is designed to allow field staff to make these changes directly. With select data elements, however, SACWIS systems will "freeze" certain data so that end users cannot make corrections. (This "freezing" is a result of an interpretation of the applicable SACWIS program regulations.) In those cases, neither the field staff nor the data analysis staff can directly correct the data. They instead must specify the change to be made and send that request back to the technical staff with responsibility for the database and the authority to make that correction in the database itself.

Within DCS, the Office of Information Systems (OIS) is responsible for the application, database, and reports. In late 2012 the Department clarified that data quality is the responsibility of the Inspector General and specifically the Analytics Unit located within the Office of Performance Excellence (OPE).

B. Challenges Faced in Implementing TFACTS

The Tennessee Family and Child Tracking System (TFACTS) is Tennessee's SACWIS system. Deployed in August 2010, TFACTS replaced TNKids, the Department's prior automated case record system, as well as thirteen additional free standing computer systems that supplemented the information available in TNKids. As has been the case with many SACWIS implementations around the country, the deployment of TFACTS caused significant organizational problems.

In June 2011, in response to complaints from foster care providers that TFACTS malfunctions were inhibiting timely payments, the Comptroller of the Treasury initiated an examination of the TFACTS implementation. In October 2011, the Department commissioned its own internal evaluation of the TFACTS implementation, an evaluation with a much broader scope than the Comptroller's audit. The Department's evaluation, *DCS TFACTS Assessment*, (hereafter referred to as the DCS Self-Assessment) was completed on January 9, 2012, and the Comptroller's report, *Oversight for System Development Projects: A Review of TFACTS Implementation* (hereafter referred to as the Comptroller's Report), was issued on March 5, 2012.

In its June 2012 Monitoring Report, the TAC highlighted the challenges encountered by DCS in the transition from TNKids to TFACTS. The TAC described "the Department's vision for TFACTS" as:

"a system, benefiting from significant advances in computer technology, designed to support the Department's practice model and performance needs; organized around the case process flow, incorporating the forms and tools that case managers use; capturing information more efficiently, eliminating much of the duplicate data entry that TNKids required; providing enhanced access to resource information and prompts and alerts to encourage good practice; engineered to limit opportunities for inaccurate or incomplete data entry and to provide for improved auditing and data cleanup. TFACTS was envisioned as a much more easily accessed, functional, user-friendly information system than TNKids and with a vastly improved and more robust reporting capacity that could support the goals of improved accountability and demonstrated results for children and families."[6]

Unfortunately, there were *"significant deficiencies in both the design and implementation of the system, including a lack of internal capacity to support and maintain the system."*[7] As a result, while the Department is presently benefiting from some elements of the new system, "*not only have there been delays in implementing various functions that the Department had planned to be able to rely on in its day-to-day operations, but a significant number of aggregate reports that the Department expected to use for both internal management and TAC monitoring and reporting were delayed."*[8]

While the June 2012 Monitoring Report (covering the monitoring period ending December 31, 2011) included updated reporting utilizing aggregate data from TFACTS that the TAC determined to be reliable as well as performance data from other sources (such as targeted case reviews performed by TAC monitoring staff), there were a number of areas for which aggregate reporting that had been previously available from TNKids were still either unavailable from TFACTS or available but not sufficiently reliable.

Because the transition to TFACTS was so difficult, and because the Department's predictions of when various functionality issues would be addressed and aggregate data would be available were not met over many months, the Court, the plaintiffs, and the TAC became increasingly concerned about the Department's ability to address the TFACTS problems. An important related concern was the impact of these problems on the TAC's ability to monitor and report to the Court on the Department's compliance with the terms of the Settlement Agreement. At the October 2012 hearing, the Court and the plaintiffs expressed skepticism, given the problems with TFACTS, in the TAC's assertion that the aggregate data that the TAC had reported in its June 2012 Monitoring Report were reliable.

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[6] June 2012 *Brian A. v. Haslam* Monitoring Report at page 5.

[7] *Id.*

[8] *Id.* at page 2.

On November 9, 2012, pursuant to the Court's direction and with the support of the parties, the TAC filed a *Notice as to the Role of the Technical Assistance Committee*, reflecting the commitment of the TAC, "with the support of additional consultants with IT expertise as the TAC deems necessary"[9] to conduct an evaluation of TFACTS that would include an assessment of the Department's approach to addressing problems with TFACTS, the timelines for addressing current deficits, and additional and/or alternative IT solutions to TFACTS problems to the extent that that appeared appropriate.

The *Notice* also reflected the TAC's intention to utilize other monitoring methods, such as targeted reviews, manual data collection, staff interviews, surveys, and audits, to validate the reliability of any of the TFACTS reporting on which the TAC relies for its monitoring; and continue to use alternative monitoring methods to ensure sufficient information to report on those provisions of the Settlement Agreement for which reliable TFACTS data are unavailable.

[9] The TAC TFACTS Evaluation was spearheaded by John Ducoff, a consultant retained by the TAC for this purpose. In addition to Mr. Ducoff, the TFACTS Evaluation Team included TAC members Judy Meltzer, Paul Vincent, and Andy Shookhoff, as well as Jennifer Haight of Chapin Hall at the University of Chicago. Mr. Ducoff oversaw the implementation of *NJ SPIRIT*, New Jersey's current SACWIS system. Ms. Haight and her colleagues at Chapin Hall are responsible for the Multi-State Child Welfare Data Archive, of which Tennessee is one of 22 member states. They have been helping clean, organize, and analyze Tennessee data, initially from TNKids and now from TFACTS, and have done/continue to do similar work for more than two dozen other states, including helping other states maintain the integrity of their analytic files as they are going through Information Technology (IT) system conversions.

SECTION TWO: STRUCTURE OF THE EVALUATION

The TAC approached the TFACTS evaluation from two perspectives.

First, *the TAC assessed whether the aggregate data available from TFACTS is sufficiently reliable to support assessment and monitoring of the Department's performance by the Court (with the support of the TAC) and by the Department itself.* To the extent that the TAC identified problems with the data, the TAC also assessed the reasonableness of the Department's approach to addressing those issues.

Second, *the TAC examined a broad range of concerns about the current functioning of TFACTS with special emphasis on the perspectives of the end users, particularly case managers in the field rather than the administrators and managers who would be most interested in aggregate data reporting.* This perspective focused on the current issues with the TFACTS system itself, including current defects and deficiencies and the Department's ability to provide end users with appropriate training, a responsive help desk, and on-site support to assist them as they use the system. In addition, the TAC included in this focus specific consideration of the extent to which TFACTS meets the Settlement Agreement requirements that the Department's statewide data system is accessible in all regional offices; ensures user accountability; uniformly presents the AFCARS elements; provides an immediately visible audit trail to the database administrators of all information entered, added, deleted or modified; and has necessary security to protect data integrity.[10]

This section provides an overview of the components of this two-pronged approach to provide an orientation to the more detailed discussion presented in Sections Three and Four of this Report.

A. The Accuracy and Reliability of Outcome and System Performance Data: Assessing the Case File Entry and Data Aggregation Processes

At the status conference on October 24, 2012, the Court observed that the Department had moved from a "hard copy case file system" to an "electronic case file system." The TFACTS electronic file has replaced the "paper file" that used to be the official repository of important information about a child and family, of key documents related to the case, and of case manager activity related to the case.[11] Plaintiffs and the Court questioned whether the TFACTS implementation problems meant that critical information necessary to everyday case work was not available from the electronic case file, either because the system imposes unreasonable

[10] Settlement Agreement X.

[11] The shift from "hard copy" case files to electronic case files was initially accomplished under TNKids. Unlike TNKids, TFACTS uses the family case as the organizing principle and includes the individual "child file" within the family case.

burdens on staff while entering information or because the information, even if properly entered, is nonetheless not accessible for staff to retrieve and review when necessary. A related concern was that even properly entered data could not be accurately aggregated into reports that can be relied on, either by the Department for its own internal management needs or by the TAC for monitoring and reporting to the Court on the Department's compliance with the Settlement Agreement.

This aspect of the TAC TFACTS evaluation therefore included a set of activities designed to answer two key questions:

- To what extent do the structural and/or implementation problems with TFACTS prevent important case information from being entered and retained accurately in the individual TFACTS case file?

- To what extent do the problems with TFACTS prevent important case information from being accurately extracted from the individual TFACTS case file, aggregated and analyzed?

These questions relate directly to the requirements of the Settlement Agreement that the Department build and maintain a statewide information system that allows workers to directly enter data into the system and that supports the production of reliable and accurate data.[12]

To answer these questions, the TAC focused specifically on key data elements and fields in the individual case files that the TAC relies on for its monitoring and reporting. The TAC first examined the case file fields themselves and the process for data entry to determine whether there were any design issues that made accurate data entry particularly complex or difficult. In making this determination, the TAC also considered the information gathered by the set of activities discussed in Section B below, regarding the problems that the field was experiencing related to data entry and electronic case file management, to determine whether any of those problems appeared to affect any of the key data elements.

Second, the TAC monitoring staff conducted a review of randomly selected cases to validate the two data sources on which the TAC relies for the bulk of its aggregate data—Chapin Hall data (based on the Chapin Hall Extract) and the Mega Report.[13] This review compared the

[12] The Settlement Agreement provides that *"workers shall be able to directly enter data"* into the system and that the system "*shall ensure data integrity," "shall have the necessary controls to prevent duplication of data and to reduce the risk of incorrect or invalid data,"* that the system "*shall be audited periodically to ensure the accuracy and validity of the data,"* that *"[a]n intensive clean-up process shall ensure the accuracy of all data"* in the system, and that the system *"shall be capable of producing system-wide reports."*
See Settlement Agreement, X.A-C.

[13] See Section Three, subsections A.1 and A.2 for descriptions of each of these extracts and their uses.

information in the fields of the individual case files from which the extracts draw the data with the individual case file detail in the extracts in order to determine whether the individual case detail in the aggregate report matched the information in the individual case files.

With respect to the Chapin Hall Extract, the TAC reviewed the standard practices that Chapin Hall staff follow when they receive child welfare administrative data and develop it into analytic files. Additionally the TAC reviewed the specific data verification work that Chapin Hall has done in Tennessee, including work during the transition from TNKids to TFACTS.

Finally, the TAC reviewed the "*Brian A.* reporting," referenced in Appendix A of the June 2012 Monitoring Report, that was unavailable or insufficiently reliable in the TAC's view at the time that the TAC issued its June 2012 report, to determine: (1) whether that reporting is now available and sufficiently reliable to be included in the next Monitoring Report, and (2) if not, what, if any, alternative monitoring is necessary to compensate for the absence of TFACTS aggregate reports.

The findings related to this prong of the evaluation are set forth in Section Three of this Report.

B. The Usability of the System: Assessing the Department's Capacity to Address TFACTS Deficiencies and Support and Maintain a Functional Statewide Computerized Information System

Both the DCS Self-Assessment and the Comptroller's Report referenced a significant number of "defects." The Department had used this term quite broadly, and the "defects list" included not only work that was necessary to correct system problems, but also work needed to improve functionality and performance, requests for modifications to the original design, and complaints about missing or delayed functionality that are not technically system "defects" (as IT professionals use that term).

This prong of the TAC's evaluation focused on the reasonableness of the Department's plans and the adequacy of resources devoted to addressing the TFACTS issues that are critical to the overall functioning of Tennessee's child welfare system and to the Department's ability to meet the requirements for exit from Court supervision. The factors the TAC considered in reviewing the reasonableness of the plans include the timing and sequencing of actions, and the sufficiency of the resources devoted to carrying out the plan, encompassing both the Department's internal capacity and the availability of external support.

In the course of this part of the evaluation, the TAC specifically reviewed the current list of defects and proposed enhancements, and the Department's plans for addressing both.

In addition, in order to assess the significance of these issues and their impacts on end users of TFACTS—most importantly, case managers—the TAC and/or TAC monitoring staff engaged in a set of activities intended to assess those impacts and the way in which the Department has mitigated any concerns, including:

- interviewing a statistically significant sample of randomly selected case managers about their experiences with TFACTS;
- conducting a focus group with TFACTS Field Customer Care Representatives (FCCRs);
- reviewing complaints to the TFACTS Customer Care Center (CCC); and
- participating in the three-day TFACTS training currently provided as part of new case manager pre-service training.[14]

This part of the evaluation is also informed by the direct experience of the TAC monitoring staff who have been using TFACTS to find and examine individual case records and to aggregate data (TAC monitoring staff have been conducting regular case file reviews of TNKids files prior to the deployment of TFACTS in August 2010 and of TFACTS files since deployment, and have worked on a number of projects with field staff related to TFACTS issues).

In order to assess the Department's progress on the "All Defects" list, the TAC received, reviewed, and analyzed the "All Defects" list as of February 28, 2013. The purpose of this analysis was to validate the nature, scope, and extent of the original entries on the list, to assess and verify the Department's progress "working down" the list, and to understand the nature, scope, and extent of the entries that remained outstanding as of that date. The TAC also interviewed key leadership in the DCS Office of Information Systems to assess its staffing, structure, and practices around the maintenance and updating of the list itself, prioritization, sequencing, and management of work on list entries, and the manner in which the field's priorities are reflected on the list.

The TAC paid particular attention to specific concerns (discussed in more detail in Section Four) raised by the plaintiffs' information technology expert and others about the impact of the Department's use of "OptimalJ," a software program that generates computer code, in the development of a portion of the Java code that TFACTS contains. The TAC reviewed relevant documents and interviewed a number of technical staff, including the Department's technical leadership within OIS; a representative of Compuware, the manufacturer of OptimalJ; and

[14] The same staff member had attended TFACTS training at the time of the transition to TFACTS. The purpose for attending the more recent (February 2013) training was to compare current training to the original TFACTS training and also to assess the relevance and responsiveness of the current training to the needs of the field.

several independent technical professionals with experience with data modeling tools similar to OptimalJ as well as experience in SACWIS system implementations. The TAC also had the opportunity to discuss the OptimalJ issues with the technical and project management staff from the national IT consulting firm of Gartner, Inc., who were conducting the Independent Verification and Validation (IVV) Review of TFACTS, pursuant to the recommendations of the Comptroller's Report.[15] The IVV Scope of Work includes a specific technical review of the issues surrounding OptimalJ and the Department's plans to address them.

The findings of this prong of the TAC's TFACTS evaluation are discussed in Section Four of this Report.

[15] See Section Four for further discussion of the IVV Review.

SECTION THREE:
THE CASE FILE DATA ENTRY AND DATA AGGREGATION PROCESSES

The TAC uses a variety of methods to gather the data necessary to monitor and report on the Department's compliance with the provisions of the Settlement Agreement. These methods include, but are not limited to:

- aggregate data tracking and analysis;
- case file reviews;
- qualitative case reviews (which include both review of the case file and interviews with those involved in the individual cases reviewed);
- telephone interviews and surveys of DCS staff, private providers, and resource parents;
- review of personnel files and of personnel-related data maintained in "Edison" (the state's Human Resources (HR) information system);
- review of budget documents and financial data;
- observation of Child and Family Team Meetings;
- observation of case conferences (periodic case review conference calls between Central Office and regional staff);
- observation of and participation in work groups focused on particular issues (*e.g.*, resource parent recruitment and retention, post-adoption support, quality assurance, private provider oversight, TFACTS reporting);
- observation of and participation in the QSR process;
- focus groups;
- review of internal evaluations conducted by DCS;
- review of external evaluations of DCS; and

- review and follow up on complaints and referrals received by the *Brian A.* Monitor's Office (ordinarily by phone, but sometimes by e-mail or mail) expressing concerns about particular practices, situations, and/ or the handling of specific cases.

Most of these monitoring methods depend to some degree on the TAC's ability to obtain accurate information from the TFACTS case files. Individual case file reviews require the TAC monitoring staff to be able to access "check box" data, case narratives, and documents such as permanency plans and formal assessments. Aggregate data tracking and analysis require the TAC to be able to extract information from the relevant fields in the individual case files and deposit that case specific data in tables or spreadsheets that allow the TAC to aggregate and analyze the data. And often the TAC's work involves using the aggregate data to identify a target population (or populations) from which the sample for a case file review can be generated.

The TAC also relies on TFACTS in a variety of other ways. When the TAC pulls a sample of case managers for periodic case manager surveys, TFACTS is used to identify the pool of case managers from whom the sample should be drawn. (For example, depending on the purpose of the survey, the pool might be all case managers who have responsibility for a *Brian A.* case or all *Brian A.* case managers who have been hired within the past two years.) When responding to questions raised about the appropriateness of a specific congregate care placement, TFACTS is used to identify the *Brian A.* children placed in that facility. TFACTS is frequently used to generate individual and aggregate data to help inform some of the work group discussions in which the TAC participates.

Because of concerns raised about the Department's problems in generating aggregate reports from TFACTS, Plaintiffs and the Court understandably asked whether the aggregate data that the TAC uses in its monitoring reports are sufficiently reliable. The Court questioned whether the problems with the TFACTS reporting function might mean that the aggregate data in reports relied on by the TAC did not reflect the actual individual case information in the case files from which the aggregate data was intended to be drawn. To paraphrase the Court: "If you look at the information in the child's electronic case file and then look at the information about that child in the aggregate report, will it match?" To answer this question, the TAC carried out a special review of the key data elements of the Mega Report and the Chapin Hall Extract.

A. The Mega Report/Chapin Hall Extract Key Data Elements Review

The Mega Report/Chapin Hall Extract Key Data Elements Review (hereafter referred to as the Key Elements Review) was designed to validate the process by which the Department creates extracts containing key pieces of data from specific fields in individual TFACTS case files. These extracts, and the key case file elements from which they are drawn, are the two major sources of aggregate data relied on by the TAC for its monitoring and used by the Department

for its internal management. The first extract is the "Mega Report," a multi-purpose spreadsheet that is produced weekly and contains a broad range of child-specific information relevant to day-to-day management needs of DCS. The second extract, referred to as the Chapin Hall Extract, is the source for a set of longitudinal data files created semi-annually by Chapin Hall that the TAC and DCS use to reliably summarize a child's or a group of children's experiences within the system, track key child welfare outcomes and trends, and address questions about the Department's performance over time with respect to those outcomes.[16]

The TFACTS case file data elements that are the source of the Mega Report and Chapin Hall extracts that the TAC relies on for the bulk of its TFACTS data reporting are relatively straightforward, simple to enter, and well understood by the field. That being said, there will always be a certain amount of data entry error in any filing system ("hard copy" or "electronic"), and the specific case file fields that the TAC relies on for its aggregated data analysis are not exempt from this. However, it is important to note that, as reflected in the case manager survey

[16] Administrative data sources can by queried a number of different ways to extract relevant information about system performance. Using longitudinal files and following "cohorts" over time produces a complete summary of all tracked experiences for all children in the cohort, and is therefore the most methodologically sound method for asking and answering key classes of questions about change in outcomes over time. Appendix D of the June 2012 Monitoring Report provides a more detailed discussion of this and other methods of empirical analysis.

results discussed in Section Four, there is nothing particularly challenging about the data entry process for these particular TFACTS fields.[17]

B. Description of the Mega Report and Its Uses

The Mega Report (originally run from the TNKids electronic case files and now run from the TFACTS electronic case files) is an Excel spreadsheet generated each week from TFACTS that contains a standardized "menu" of information for each child who either (a) is in DCS custody as of the date of the Mega Report or (b) has exited DCS custody at any time between the first day of the preceding month and the date of the Mega Report (a period of between one and two months depending on the date of the Mega Report).

The Mega Report was initially developed to respond to the day-to-day management needs that both the Central Office and the regional leadership had for up-to-date basic data about the children in state custody at any given time. The report reflects a collaborative effort of the Central Office and regional staff, both in the selection (addition, deletion, and modification) of the fields to be included in the report and in the "vetting" of the data in the report to ensure its

[17] The Case Assignment fields (Team Leader/Supervisor, Primary Case Manager) warrant further comment. While entering an assignment to a case is relatively simple, entering the case assignment as necessary to ensure it is accurately pulled for aggregate reporting purposes is more complex. As discussed further below in subsection E, the change from a system organized around a "child case" (as TNKids was) to a "family case" (as TFACTS is), while positive, also adds a level of complexity to reporting case assignments because multiple workers performing different functions are assigned to the same family case but are not assigned to the individual children in the family. The function performed by a particular worker for the family is indicated through the assignment of a specific role. The Department developed the "Primary Case Worker (PCW)" assignment role to designate the worker who holds primary responsibility for the case, and guardrails have been added to ensure that one—and only one—PCW is assigned to every case. However, for cases in which multiple workers are providing services simultaneously to the same family (sometimes to different children within the family), it is a significant challenge to develop logic for reporting purposes that can accurately select the worker providing the service that is the focus of a given report. Another complicating factor is that multiple cases may be open for a family simultaneously (sometimes because a new family case is created for a CPS investigation rather than connecting the investigation to an existing family case). All of this is compounded by the lack of clear and consistent communication within the Department about the way in which the various roles, including the PCW role, are intended to be used.
Some examples may best illustrate this complexity. If a new family case is opened for an investigation concerning a child already in custody instead of linking the newly opened investigation to the current family case where the child's custody episode is documented, the CPS worker would appear as the assigned FSW on the Mega Report because it pulls the "Primary Case Worker" or Family Service Worker assignment information for the most recently opened case (the CPS worker would appropriately be assigned the "Primary Case Worker" role on the investigation). Similarly, if a case involves two or more children with different adjudications (*i.e.*, if one is a *Brian A.* child and the other is a delinquent child), the Mega Report would pull the Juvenile Justice worker as the FSW for the *Brian A.* child if that worker were assigned the Primary Case Worker role (only one Primary Case Worker may be assigned to a family case, and it would be appropriate for the Juvenile Justice worker to have this role if the children all had delinquent adjudications—this is one area in which additional clarity is needed about how assignment roles are intended to be used when multiple services are being provided to one family).

accuracy. And because the Mega Report is used in the day-to-day work, there is ongoing scrutiny of the data by Central Office and regional staff which allows the Department to identify and correct errors and also helps the Department identify and respond to common causes of data entry errors or omissions.[18]

Utilizing the basic Excel tools, the information in the Mega Report spreadsheet can be sorted and aggregated to create a "point-in-time" profile of the entire population or a subset of the population and can also be used to generate the list of cases for targeted case reviews conducted periodically by DCS and/or the TAC.

The child specific data elements that make up the present TFACTS Mega Report include:

- Case Assignment Information: Assignment Region, Assignment County, Team Leader/Supervisor, Primary Case Manager;

- Removal Information: Removal Address, Removal County and Region, Custody Reason, a "Flag" to indicate cases in which the Removal occurred in an Emergency situation;

- Identifying and Demographic Information: TFACTS Case and Person IDs, Name, Gender, Date of Birth, Age, Race, Hispanic Origin, Alien Status, Social Security Number;

- Legal Status Information: Adjudication, Custody Date, Exit Custody Date, Exit Reason, Guardianship Status and Effective Date, Termination of Parental Rights (TPR) Petition Date, Voluntary Surrender Date, Certification of Death of a Parent Date, Dates for the Beginning and Ending of any previous custody episodes, a Date that an Intent to Adopt form was signed by the child's current caregiver, and a designation for if Compelling Reasons to not file TPR have been established in the context of an Adoption and Safe Families Act (ASFA) review;

- Permanency Plan Information: Permanency Goals, Dates for Permanency Plans and Goals; and

- Placement Information: Placement Location (the name of the resource parent or the facility where the child resides), Private Provider/Contract Agency serving the child, Placement Begin Date, Placement End Date, the Placement Setting (the code used for reporting to the Adoption and Foster Care Analysis and Reporting System known as

[18] Incomplete or inaccurate data entry may be attributed to inadequate training of staff on proper data entry, or problems with the way in which the particular TFACTS field is designed or problems in the way in which the data is drawn to create the Mega Report—or some combination of the three.

AFCARS), and the Level of care for the placement of the child (for private agency placements this determines the financial rate paid to the provider), the Kinship Role/ pre-existing relationship of the caregiver to the child, the address, region, county and telephone number of the placement.[19]

The Mega Report is an important data source for TAC monitoring because it is updated weekly and because the Excel format makes aggregation and analysis relatively quick and easy. If the Mega Report is in fact drawing accurately from the relevant field in each child's case and if case manager data entry for those electronic case file fields is accurate and current, then the Mega Report can be used to provide up-to-date information on:

- the number of children in custody;
- staffing and geographical assignments for the children in custody;
- basic demographics of the children in custody;
- the legal status of the children in custody;
- placement/location details of the children in custody; and
- the permanency goals and permanency plans for the children in custody;

This reporting is therefore used by the Department and/or the TAC for tracking, reporting, and/or targeted case reviews related to:

- custody numbers, numbers of exits and entries;
- children in full guardianship;
- children placed in residential facilities, group homes, and Primary Treatment Centers;
- children in custody for certain periods of time (for example, reviews of children in custody for 15 months or more for whom TPR has not yet been filed);

[19] Fields related to education information (school name, grade, and information about disabilities listed in any Individualized Education Plan) are the most recent additions to the Mega Report and the Department is still working to ensure that education information is being entered into the TFACTS case file and is captured accurately in reporting. The Key Elements Review did not examine these fields because the TAC does not presently rely on these elements of the Mega Report for monitoring or reporting.

- children placed in detention;
- children under age six in congregate care;
- children of the appropriate age to qualify for Independent Living services;
- children on Trial Home Visits;
- children with Permanent Planned Living Arrangement permanency goals; and
- children with no Permanency Plans entered in the system after 60 days in custody or with a Permanency Plan that is older than 12 months

C. Description of the Chapin Hall Data and Its Uses

Chapin Hall, utilizing methods that it has developed over 25 years working with 22 jurisdictions, has created a structure for receiving data from a wide variety of administrative databases and SACWIS systems and for using that data to support analysis of key child welfare outcomes (both within a jurisdiction and across systems) related particularly to the federal goals of safety, permanency, and well-being.

Chapin Hall has been engaged with the Tennessee Department of Children's Services for nearly a decade helping it use its TNKids and TFACTS administrative data to understand and improve the performance of its child welfare system. The Chapin Hall Data consists of information related to CPS referrals (including investigation, assessment, and resource linkage cases), and related to the provision of pre-custodial, custodial, and post-custodial child welfare services to children and youth (and similar data for youth who are adjudicated through the juvenile justice system).

The Chapin Hall longitudinal data accounts for a significant portion of the Data and Outcome Measures Overview presented in Section One of the TAC's monitoring reports.[20] This includes data that help the parties and the Court understand: trends in admissions and discharges that affect the overall custodial population;[21] the extent to which the Department is successful in placing children in family settings rather than congregate care;[22] in keeping children in their

[20] See, for example, June 2012 *Brian A.* Monitoring Report at pages 21 to 98.

[21] Placement population dynamics (admissions, discharges, and placement; number and rate per 1,000 of first admissions).

[22] Initial and predominant placement settings (congregate care or resource homes, including distinctions among types of congregate care settings and between kinship and non-kinship resource homes).

home communities;[23] in placing siblings together;[24] in maintaining the stability of children while in placement;[25] and in achieving permanency and reducing the time children spend in care.[26]

Since the transition to TFACTS, Chapin Hall has also been providing the data for reporting on some of the outcome and performance measures specified in Section XVI of the Settlement Agreement (time to reunification adoption finalization; number of placements; length of time in placement; reentry into placement; and achievement measures upon discharge).

The Chapin Hall Data also provides the Department and the TAC with demographic analysis (age, race, ethnicity, gender) to distinguish between children in DCS placements and children in placements operated by private providers, and to compare a private provider's performance to both the past performance by that provider and the performance of other providers with respect to similarly-situated children. This data provides the basis for the performance-based contracting required by the Settlement Agreement and discussed further in subsection E.2 below.

D. The Mega Report/Chapin Hall Extract Key Data Elements Review: Methodology and Findings

The Department's Office of Information Systems (OIS) has developed a "script"[27] for pulling the Mega Report. They have also developed, in collaboration with Chapin Hall, a script for pulling the Chapin Hall Extract.

The TAC monitoring staff and one TAC member met with the OIS staff person responsible for the script to review the design of the Mega Report and to identify the fields in the individual case files that the script pulls from to create information in each child's case field of the Mega Report. Subsequent to that meeting, TAC monitoring staff, one TAC member, and Evaluation Team member Jennifer Haight of Chapin Hall, met with the two developers responsible for pulling the

[23] Initial placement location (in county or out of county placements).

[24] Sibling Separation (percentage of sibling groups entering together who are placed together).

[25] Placement stability (number and distribution of placement moves by entry cohort and percentage of children with two or fewer placement moves by cohort for comparable time windows).

[26] Permanency (length of time pathways by year of entry and duration; median lengths of stay; cumulative percentage of children discharged to permanent exits, including by type of permanent exit; and to non-permanent exit, including by type of non-permanent exit; cumulative percentage of children still in care by cohort year).

[27] A computer script is a list of commands that are executed by a computer program. Scripts may be used to automate processes on a computer. In this case, the script acts as a "query" or question to the TFACTS database which responds by sending back an answer in the form of data. For example, a "script" to find out the names of all service providers who do business with the Department would, once "run," return to the computer operator a report with the list of all DCS providers and their addresses on it.

Mega Report and the Chapin Hall Extract, to compare the TFACTS case file fields from which each is drawn and the scripts for drawing the data from those fields.[28]

Using the specific Mega Report that formed the basis of the meetings with the report developers (the Mega Report dated November 29, 2012), TAC monitoring staff pulled a statistically valid random sample for the case file review. The Mega Report listed 7,204 class members; 6,741 of whom were still in custody on that date, and 463 (6%) who had recently exited custody. A sample size of 95 class members was required for a confidence level of 95% and a confidence interval of +/- 10. A random sample, stratified by region, was selected. Of the sample population, seven children (7%) had exited custody.

The review focused on the specific Mega Report fields which the TAC monitoring staff rely on for monitoring and the comparable Chapin Hall Extract fields that draw from the same individual case file fields in the same way.

For each case selected for review, TAC monitoring staff examined the individual case file field in TFACTS and compared the information/documentation contained in the individual case file for that child to the relevant information contained in the Mega Report. A document containing screen shots from TFACTS and indicating with superimposed arrows the specific fields that were the focus of the Key Elements Review is attached as Appendix I. In order to verify the Team Leader and Case Manager for each case, TAC monitoring staff examined the Assignment tree of each Team Leader in TFACTS "Staging" and verified whether the case had been assigned to the case manager listed on the report, supervised by that Team Leader.

Through this case review, the TAC was able to verify that the Mega Report accurately reports the information as it was entered into TFACTS for the demographic, legal, and placement information used by the TAC in its monitoring and reporting. In addition, because of the overlap of the Mega Report and the Chapin Hall Extract,[29] the TAC was able to verify that the Chapin Hall Extract accurately reports the information as it was entered into TFACTS.

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[28] The Department's report developers use the database management system Oracle to run scripts, referred to as the Structured Query Language (SQL) documents, which are essentially a code for the information that is to be pulled out of TFACTS. The code is run against what is called "Staging," an identical copy of the TFACTS application and the data in it, which is used for training and testing. This is done to avoid risking the integrity of the primary version of the TFACTS application that is used by staff carrying out their work, which is known as "Production." This is a common practice in organizations that operate and maintain large software applications such as TFACTS. The Output is returned into Statistical Analysis Software (SAS) that removes duplicate lines in order for all of the information to line up vertically for each child based on their Child ID. The process takes about 20 to 30 minutes. The SAS program generates a neatly-formatted Excel spreadsheet that is posted on a secure online site for Central Office and regional staff to access. The process for pulling the Chapin Hall Extract is the same.

[29] The Chapin Hall Extract and the Mega Report draw information from the same key data fields in the case file. While Chapin Hall uses slightly different terminology than the Mega Report in referring to this data, for the Chapin Hall data used by the TAC in its monitoring, the data is extracted from individual case files using the same script as

Table 1 below shows the TFACTS data that have been validated by this review and that the TAC is confident in using for its monitoring reports. The Table shows (from left to right) the relevant TFACTS case file field, the Chapin Hall reporting element and the related Mega Report column element used by the TAC for tracking and reporting.

that used to pull the same data for the Mega Report. For this reason, a case file review that validates the data in the Mega Report also serves to validate the comparable data in the Chapin Hall Extract. The only Chapin Hall data used by the TAC that was not verified by the Mega Report review is "sibling placement" because information on sibling group status is not included in the Mega Report. The TAC verified the sibling group data by checking the sibling information in TFACTS for a statistically significant random sample of class members from the Mega Report and comparing that information with the sibling group TFACTS extract that is provided to Chapin Hall.

Table 1: Fields of Mega Report and Chapin Hall Extract Validated by Key Elements Review		
TFACTS Field	**Chapin Hall Data**	**Mega Report Column**
Assign Responsible County, Organization	Reporting by Region	Assignment Region
Assign Responsible County, County	In-County Placements	Assignment County
Person ID	All reporting	Client ID
Adjudication	All reporting	Adjudication
Person Information, DOB	Reporting by Age	Date of Birth
Demographic Information, Race	Reporting by Race	Race
Child Legal Status Details, Effective Date	Section XVI Outcome Measures	Custody Date
Child Legal Status Details, Termination Date	Reporting by Spell and Section XVI Outcome Measures[30]	Termination Date
Child Legal Status Details, Termination Reason	Type of Exit	Release Reason
Placement Information, Placement Begin Date	Reporting by Spell	Placement Begin Date
Placement Information, Placement End Date	Reporting by Spell	Placement End Date
Relationship	Sibling Placement	N/A[31]
Resource Address	In-County Placements	Placement County
Kinship Approved/Relationship to Child	Reporting on Initial and Predominate Placement Type	Kinship Role
Resource Information, Resource Sub-Type	Reporting on Initial and Predominate Placement Type	Placement Setting

[30] See footnote for 33 the definition of a spell.
[31] As explained in footnote 29 above, sibling relationship is not in the Mega Report so the TAC did a second review to validate sibling group data.

Table 1: Fields of Mega Report and Chapin Hall Extract Validated by Key Elements Review		
TFACTS Field	**Chapin Hall Data**	**Mega Report Column**
Placement Information, Service Type	Reporting on Initial and Predominate Placement Type	Placement Type
Resource Name	Placement Stability	Placement Location
Legal Status	XVI.A.2	Guardianship Status
Child Legal Status Details, Effective Date	XVI.A.2	Guardianship Effective Date
Assignment Supervisor	N/A	Team Leader
Primary Caseworker	N/A	Primary Caseworker
Primary Caretaker Address	N/A	Removal Address
Pleading/Petition Action Date	N/A	TPR Petition Date
Permanency Goals and Dates	N/A	Permanency Goals and Dates
Contract Provider	Used for Performance Based Contracting	Placement Resource Name
Intent to Adopt Date	N/A	Intent to Adopt Date
TPR Compelling Reason	N/A	TPR Compelling Reason
TPR Compelling Reason Expiration Date	N/A	TPR Compelling Reason Expiration Date

E. Additional Activities to Ensure the Integrity of the Chapin Hall Data

1. General Data Vetting Processes

Since the initial development of the first set of analytic files, sourced from TNKids data, Chapin Hall researchers have used the same general processes to ensure the integrity of the data received from DCS.

On a semi-annual basis, data extracts created from the administrative data system are securely transferred to Chapin Hall. The design and layout of these extract files was determined through a series of conversations between DCS IT staff and Chapin Hall researchers. Although there are changes from time to time in extract content and layout, generally speaking the extracts are the same from update to update.

Data from these extracts are read into Statistical Analysis Software (SAS)[32] data sets, and then run through a series of proprietary programs and algorithms which produce fully updated longitudinal data files every six months. Two sets of files are produced: standardized files that are uploaded to the Multi-State Foster Care Data Archive, housed at the Center for State Child Welfare Data, and state specific files, which are used for work conducted only in Tennessee. The Tennessee files always include child spell[33] files as well as agency spell[34] files, and a set of CPS maltreatment referral data files.

The approach to working with the raw data and transforming the data into analytic files always includes the following steps to ensure data integrity:

- review of the newly transferred extract data and comparison of their file size to previous extracts to look for anomalies;
- comparison of results on key variables from one data set to the next;
- looking for differences that one would expect (for example, recent exit records added, changes in predominant placement types, changes in agency distributions reflecting changes in network);
- explanation of any anomalies that are less clear (for example, new agencies in the network, new contract types, providers leaving the network);
- following up with Department contacts when discrepancies cannot be explained; and
- continuing this process until DCS staff and Chapin Hall researchers are satisfied that current files are consistent with prior versions.

[32] See footnote 28 for an explanation of the use of Statistical Analysis Software (SAS).

[33] A spell is a continuous period of time that a child spends in foster care. A placement event starts a spell; an exit event ends a spell. A child may experience multiple placement events (*i.e.*, movements) during his/her spell. A child may also have more than one spell—this is the case when a child re-enters care after being discharged.

[34] An agency spell represents the continuous period of time a child spends being served by a distinct private provider agency, for use by Chapin Hall for Performance Based Contracting. A child spell may contain multiple agency spells, if the child transfers from the care of one private provider agency to another during his/her experience in care.

In addition, with respect to those aggregate reports regularly produced by Chapin Hall for DCS and the TAC (including those relied on by the TAC in its monitoring reports), Chapin Hall has compared: the data from TNKids for the period from 2000 to 2010 to the data for the same period in TFACTS to verify that the TNKids data were successfully converted into TFACTS; reports run from TNKids against the reports run from the converted TNKids data in TFACTS to make sure that the results match; and the first TFACTS reports for the first reporting period that relied on TFACTS against the immediately past reporting period that relied on TNKids. To the extent that there are significant differences, Chapin Hall seeks to understand what might explain them, such as a change in practice or in the practice environment or a change in the measure that the Department is using that would be consistent with any data differences.

2. Additional Verification of Chapin Hall Data through Performance Based Contracting

The Department's Performance Based Contracting (PBC) Initiative (discussed in detail in the TAC's monitoring reports)[35] has garnered a great deal of attention from all partners because of the direct fiscal consequences tied to provider performance on key placement outcomes including type of exits and time to permanency.

One of the pillars of this process has been the open exchange of the underlying data to ensure not only that the Chapin Hall analytic files match the administrative data files (TNKids and TFACTS) but also that those administrative data sources accurately reflect the experience of the child in placement. This continuous review is an on-going, critical element of the PBC implementation, and has two key aspects. Regular monthly activity reports are produced by DCS and distributed to provider agencies for their review, and amendments are made if necessary. Year-end data verification of the data produced by Chapin Hall is conducted prior to finalizing the provider "Baseline, Target, and Actual" reports (BTAS).[36]

Since the initiative was piloted and on a continuing basis, child-specific data is provided regularly to each provider for their review, so that the provider can be sure that the Chapin Hall data on which their performance will be measured and re-investment dollars granted or financial penalties levied accurately reflects the experiences of the children in that agency's care. Chapin Hall staff participate in regular on-site meetings with providers to review and discuss their data.

[35] See e.g., November 2010 *Brian A.* Monitoring Report at pp 326-327.

[36] Baseline, Target, and Actual reports have been produced annually for each private provider agency participating in Performance Based Contracting (PBC) to support the PBC Initiative that has been operational since FY 2006-07. These reports reflect each provider's baseline and target expectations as well as the actual performance for exits, care days used, and reentry within a three-year window. These data are based on the analytic files developed using TFACTS data.

While these reviews do occasionally result in some adjustments to the underlying database, that is the exception, not the rule, and is consistent with the level of data entry error that would be expected in a reasonably well-functioning data system. While errors are rare, when flagged by the provider, corrections are typically made to the administrative database.[37]

Providers continue to review carefully the data they get from DCS (monthly activity reports) as well as the data they receive during the year-end reviews, and with the exception of small changes that have always been part of the process, there have been no reports of unusual amounts of inaccurate data. The overall accuracy of the underlying data has simply never surfaced as a critical issue. And given the potential financial consequences to an agency if the data undercounted the agency's performance, there is a strong incentive for agencies to raise any such issues.

F. Status of *Appendix A*. Reporting

Appendix A of the June 2012 Monitoring Report identified a set of provisions in the Settlement Agreement for which the Department had indicated that TFACTS reporting on performance would be available no later than December 31, 2012.[38] At the status conference on October 24, 2012, the Court wanted to know for each of the Appendix A Settlement Agreement provisions for which TFACTS reporting was not yet available, when that reporting would be available and verified by the TAC as reliable.

As of March 31, 2013, for a majority of the Appendix A provisions, relevant aggregate TFACTS reporting (of comparable or better quality than had been available under TNKids is now available and has been validated by the TAC. For those remaining provisions for which relevant TFACTS reporting is not available and/or has not yet been validated by the TAC, the TAC has developed other sources of information sufficient to allow the TAC to report reliably in

[37] This process was established prior to the transition from TNKids to TFACTS and has been on-going since the transition to TFACTS. However, at the time of the transition to TFACTS, the PBC baselines were examined to make sure that baselines produced from TFACTS were similar to prior baselines, and the small changes observed from update to update were consistent with the changes observed when working only with TNKids data.

[38] It is important to note that inclusion of a provision in Appendix A does not necessarily indicate that there is a specific Settlement Agreement requirement that a specific aggregate report is produced to provide monitoring data or that such aggregate reporting is necessary for the Department's management purposes. For example, the Department relies on an SIU case tracking system and quality assurance (QA) review process to identify and ensure that appropriate action is being taken with respect to repeat SIU reports related to a particular child and a particular caretaker. While the Department initially anticipated creating an aggregate TFACTS report to specifically identify cases of three or more SIU reports, the Department, in consultation with the TAC, appropriately decided that implementation of the SIU case tracking data and QA review process would meet the requirements of the Settlement Agreement and provide the necessary data and documentation. The development of the specific "3 or more reports of abuse" TFACTS report was not required by the Settlement Agreement and would have been superfluous.

its upcoming monitoring report on whether Department performance is meeting the expectations of the Settlement Agreement.

A table with an update on the current status of each of the reports referenced in Appendix A of the June 2012 Monitoring Report is attached as Appendix II to this report. The text below provides further explanation on the status of the *Appendix A reports*.

1. Appendix A reporting that is presently available and validated by the TAC

Relevant reports related to *timeliness of case recordings*, *placement within 75 miles* of the child's home, and *case manager face-to-face contacts* with children are available from TFACTS and the TAC will be able to include reliable data from these reports in its next monitoring report.

Child and Family Team Meeting data comparable to what was available under TNKids is also available, allowing the Department and the TAC to resume the tracking and review processes that had been in place prior to TFACTS to report on the extent to which CFTMs are occurring.

Reporting on *CPS referrals by response priority* is available and is, in fact, applying a more rigorous measure than that used in the predecessor TNKids report. TFACTS reporting related to *Brian A. in custody investigations assigned to regional CPS, rather than SIU,* is also improved over what had been provided under TNKids. And the Department's SIU investigation tracking process provides much more extensive and actionable *data on repeat reports of abuse and neglect while in care* than a periodically produced aggregate report of limited scope related to three or more reports of abuse or neglect of a child while that child is in DCS custody by the same perpetrator.

2. Status of the remaining Appendix A Reports

The three TFACTS caseload reports (referred to in Appendix A as the *CPS CM Case Activity Report*; *Brian A. Caseload Compliance Report*, and the *Brian A. Caseload Supervision Report*) are not yet complete and valid. The change from a system organized around a "child case" (as TNKids was) to a "family case" (as TFACTS is) has many positive aspects; however, it adds a level of complexity to designing a caseload report, particularly when there are multiple children associated with one family.

While the Department continues to work out the challenges to producing an accurate caseload report directly from TFACTS, it has implemented a manual caseload tracking process to meet its own management needs and provide data for monitoring. The TAC has reviewed that process and helped the Department refine it to better meet the TAC's monitoring needs. The manual tracking data provided by the Department combined with periodic case manager telephone

interviews that survey workers as another means of verifying caseloads (findings from which to date have confirmed the accuracy of Department's manual tracking data) provide sufficient data for the TAC's monitoring of compliance with *Brian A.* caseload limits.

The two TFACTS reports listed in Appendix A that relate to the termination of parental rights process—one designed to provide data on the time between the date adoption is established as the sole goal and the *time of the filing of the TPR petition* and the other designed to provide data on the *time from the filing of TPR to obtaining an order of guardianship*—have just recently been provided to the TAC to validate. The TAC had already intended to use data from a targeted case file review to provide the basis for reporting on the time to filing of TPR in its next monitoring report, and to provide information related to the Department's efforts to ensure that full guardianship is achieved within eight months of the filing for TPR.[39]

The two CANS reports—the *CANS Data Extract* and the *CANS High Risk Assessments*—have also only recently been provided to the TAC for validation. The Department has addressed some formatting and column designation issues that had plagued the CANS extracts and the Department is confident in the data quality and utility of both CANS reports. The TAC expects to be able to confirm whether that confidence is warranted in time to report on that in the upcoming monitoring report.[40]

With respect to the two remaining Appendix A reports, those related to *diligent search*, as discussed in the June 2012 Monitoring Report, the Department had anticipated that diligent search activity would be recorded in TFACTS in a way that would provide an electronic method for monitoring this information and capturing the detail in a way that could be easily aggregated. Unfortunately, data entry of diligent search information into the relevant TFACTS fields has proven to be complex and cumbersome and it has become clear that a revision of the diligent search related aspects of TFACTS will be required to make data entry more "user friendly" and facilitate efficient, accurate, and complete data. Until those revisions are made, the Department and the TAC will continue to rely on case file reviews to determine progress toward compliance with the diligent search requirements of the Settlement Agreement.[41]

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[39] Because the Department has not been found to be "in maintenance" with respect to the requirement of section VIII.C.5(b) that it "take all reasonable steps to ensure that the date of the trial court order is within eight (8) months of the filing of TPR" and is not presently seeking a maintenance designation, the TAC does not feel the need to conduct a more extensive targeted review related to that provision at this time.

[40] Again, because the Department is not contending that it is in maintenance on those provisions for which these two TFACTS reports are relevant, the inability of the TAC at this point to validate those two reports does not present an immediate obstacle to monitoring.

[41] Those reviews provide a sufficient basis for supporting the Department's conclusion that, while they have made some progress in this area, they are not yet in compliance with this provision. At the point at which the Department believes they are nearing compliance, the TAC, in the absence of reliable aggregate reporting, would conduct its own targeted review.

G. The Department's Regular Data Quality Activities

As part of the evaluation the TAC reviewed and assessed the Department's ongoing data quality activities. Those activities span four different Departmental units—Analytics, Continuous Quality Improvement, Program/Field and the Office of Information Systems (OIS). Field staff clean data, either as instructed in conjunction with a clean up or independently; program staff in Central Office oversee other data clean-up activities with field offices and private providers; CQI staff in the regions provide *ad hoc* assistance on discrete data clean-up activities as part of their broader support around quality; and as discussed previously, OIS's Data Management group provides technical support to correct data errors in the database as necessary. As of December 2012, however, the Department explicitly designated the Analytics Unit of the Office of Performance Excellence to have the ultimate responsibility (under the supervision of the Inspector General) for data quality.

The Analytics Unit is currently in the process of adding staff to become a full analytics and research unit. As designed, the unit will have seven staff including a statistical analyst, two technical staff to run queries against TFACTS, three support staff to assist with the distribution of reports to the field, and a staff person with subject matter field experience and experience with the TFACTS application to assist in diagnostics and troubleshooting. The Director of the unit, who was appointed in December 2012, has a background in mathematics and statistics, and the other senior manager in the unit has extensive DCS experience. The Department's plan is that this unit will be able to perform statistical analysis on existing and new reports to identify anomalies, validate them based on knowledge of the agency's work, identify, in conjunction with field operations, any additional data cleaning necessary, and be responsible for ensuring that such actions occur expeditiously.

The Analytics Unit currently leads routine data cleaning activities, running the following reports regularly (weekly or monthly, depending on the report) to identify missing data:

- *Brian A.* Clients in Detention/Youth Development Center;
- Clients Not in Youth Development Center with Missing Education Information;
- Custody Clients with Missing Adjudication Information;
- Active Custody Clients Over Age 18 (*Brian A.*)/19 (Juvenile Justice);
- Clients in Custody >60 Days with No Permanency Plan;
- Clients in Custody with Permanency Plan >12 Months Old;

- Children < Age 6 in Congregate Care Placement Setting;
- AFCARS Clean Up (Adoption and Foster Care);
- Clients with No Primary Caseworker Assignment;
- Clients with Missing Social Security Information; and
- Clients with Missing Caretaker Address.

These lists are sent out to designated "data cleaning coordinators" in each office, the regional offices, and to the Deputy Commissioner of Child Welfare, with instructions that the staff responsible for each case on the list enter the missing data by a specified date. Within a day or two after that date, Analytics staff run the report again to identify how many of the data errors were resolved. The Department does not currently do any additional follow up if all requested case documentation is not completed, but is currently considering changing the process to make it more effective.

SECTION FOUR:
THE USABILITY OF THE SYSTEM AND THE CAPACITY OF THE DEPARTMENT TO ADDRESS CURRENT TFACTS DEFICIENCIES AND IMPROVE AND MAINTAIN A FUNCTIONAL STATEWIDE COMPUTERIZED DATA SYSTEM

In order to evaluate the usability of TFACTS, the TAC engaged in two sets of activities. The first included a survey of caseworkers to assess their experiences with the system and the manner in which the Department provides TFACTS training and support; a focus group with Field Customer Care Representatives (FCCRs); and a review of complaints made to the TFACTS Customer Care Center (CCC).[42] The second set of activities was focused on the efforts the Department has made during the last year to improve the user experience, most particularly with regard to fixing defects in the system, addressing deficiencies in TFACTS training, and improving help desk and on-site support to workers.

It is important to note that the overall picture regarding TFACTS with respect to defects, training, and ongoing support has changed during the past year. As previously discussed, both the Comptroller of the Treasury and the Department conducted reviews of the TFACTS implementation and identified a significant number of serious concerns. The Comptroller's report included 19 recommendations, largely focused on TFACTS's fiscal functionality, the procurement process, and some of the system's technical aspects (including the use of the "OptimalJ" tool, which is discussed further in subsection D below). The DCS Self-Assessment, which was conducted from a broader information technology management perspective, included 104 distinct recommendations. The Department adopted the combined 123 recommendations and has largely focused on steps to implement them during the last year.

In addition, in response to one of the Comptroller's recommendations, the Department has retained Gartner, Inc., a well-known, international information technology research and advisory company, to conduct an independent validation and verification (IVV) assessment of the Department's approach to addressing TFACTS-related issues.[43] These IVV assessments, which are common on information technology projects, involve an independent team of information technology professionals representing both management and technical disciplines that provides an objective, independent review of all aspects of an information technology project. Gartner's assessment was conducted over a three-month period and their findings are scheduled to be released in a formal written report this month. The TAC's evaluation has been informed by conversations with the Gartner team and a review of materials generated by them.

[42] This work was also informed by the TAC monitoring staff who have their own set of experiences working with TFACTS and interacting with field staff and customer care center staff on TFACTS related issues.

[43] Coincidentally, Gartner was the firm that the Plaintiffs' IT expert had suggested that the TAC consider consulting regarding issues related to OptimalJ.

A. DCS Office of Information Systems Staffing Roles and Responsibilities

In January 2012, the Department hired an experienced IT manager—and the author of the DCS Self-Assessment—as its new Deputy Commissioner for Information Technology and Finance. The Deputy Commissioner, who oversees the Department's Office of Information Systems, has since hired a new leadership team comprised of seasoned information technology professionals to manage, supervise, and drive the information technology work forward. The Office of Information Systems has also added additional staff and has substantially revised and professionalized its work since the appointment of the new Deputy Commissioner.

B. Assessment of Functionality of TFACTS from the Field's Perspective

During the first quarter of 2013, TAC monitoring staff conducted a two-part phone survey of case managers. The first part of the survey focused on caseloads, and the results of that part of the survey will be discussed in the next TAC Monitoring Report. The second part of the survey was designed primarily to gather information from case managers about their experiences using TFACTS in their day–to-day work. The focus of that part of the survey was on identifying any significant problems related to the case manager's experience with data entry and data retrieval from the TFACTS case file as well as the overall usability of the system.[44]

To conduct the survey, the TAC identified a representative sample of 604 case managers who were identified by the January 3, 2013 Mega Report as being a primary case worker for at least one *Brian A.* class member. A sample size of 83 was chosen, which provides a 95% confidence level with a confidence interval of ± 10%. The sample was stratified by region to capture the experience of case managers across the state.[45]

Sixty-seven (81%) of the case managers who were surveyed indicated that they were not confused about where they are supposed to enter information pertaining to their cases in TFACTS. Thirteen case managers (16%) acknowledged some confusion focused on a discrete aspect of TFACTS, rather than the system as a whole. Three additional case managers did not identify any particular confusion, but did not want to suggest that they felt confident about their knowledge of TFACTS. Of those, two indicated that they feel they know the areas in TFACTS

[44] The survey also gathered information on the case manager's evaluation of both the quality of the TFACTS training they had received and of the ongoing TFACTS training and technical support presently available. These responses informed subsections C.2. and C.3. below.

[45] Because the goal of the review was to interview 83 *Brian A.* case managers (people who typically carry a *Brian A.* caseload), 18 case managers included in the original sample were replaced because they are not "*Brian A.* case managers." A few of these workers were temporarily carrying a few *Brian A.* cases as part of a strategy to manage high caseloads. As described in detail in footnote 17, other workers did not actually carry any *Brian A.* cases but appeared as Primary Case Worker on the Mega Report because of the complexity of reporting on case assignment information for family cases.

that they are working in, but that they believe there are other aspects of TFACTS that they do not know. One indicated that she would continually have questions about TFACTS as she did her work. *These responses suggest that, by and large, most case managers feel confident in their knowledge about where to enter data in the system, although a minority still has a set of limited concerns.*

A large majority of case managers, 71 (86%) affirmed that they were able to find the information that they needed to understand the history and current status of a case (although three of those indicated that because of the multiple screens in TFACTS it takes time to gather a full picture). Of the remaining 12, eight reported difficulty getting what they needed from a TFACTS file. Of those eight, six indicated a very specific problem (a single instance of not being able to find a case for their custodial child who also had an open CPS case; difficulties in getting information when there are duplicate cases and/or merged cases; not knowing the type of information requested of them could be found in TFACTS; having difficulty finding information in a case that was transferred from one worker to another; having difficulty determining the type of case, *e.g.*, Custodial, CPS Assessment; and being unable to find who the supervisor was for a particular worker). Two did not specify the nature of the information they had difficulty retrieving. The remaining four mentioned problems that are not "TFACTS problems": one cited poor quality of prior case manager documentation as a problem; two *Brian A.* case managers felt that they needed access to CPS information (which, by DCS policy, non-CPS staff are not permitted to access); and one indicated dissatisfaction with the fact that private providers are not required to enter narrative case recordings into TFACTS, limiting information available to the DCS case manager about children served by private providers.[46] *These responses indicate that a large majority of staff feel comfortable retrieving necessary information from the system, with a minority that has some limited reservations.*

When asked at the outset of the survey what was causing significant problems for them in TFACTS, a minority of case managers (17) indicated that they had the experience of having been certain that they had entered information into the case file that later was not in the TFACTS file. Later in the survey, case managers were specifically asked whether they had *ever* had the experience of having information that they believed they had entered in a case file "disappear" and 53 case managers reported that this had happened to them at least once since the implementation of TFACTS. This might come to their attention when a TFACTS report flags one of their cases based on the failure of the case file to reflect a particular required case activity, the failure to meet a time deadline, or the absence of information from a particular field.

[46] Private providers are required to enter some case recordings regarding specific activities (such as face-to-face visits), but are not required to provide the narrative description to accompany those case activity recordings. Providers are instead required to submit monthly summaries of case work and child status.

As discussed in subsection C.3. below, the Department's Field Customer Care Representatives have followed up on these kinds of complaints, including asking the case managers to walk them through the process by which they entered the data into the particular case file field, to see whether the problem can be duplicated. Based on the experience in working with staff around these issues and looking at audit trails to try to corroborate the case managers' recollections, the customer care staff believe that many of these instances of "missing data" reflect situations in which the case manager believed that he or she had saved a piece of information in the correct location in the system, but in fact either had not saved it or had saved it elsewhere. For more recent instances of this problem, the case managers often acknowledge that it is something they experienced just once or twice on a case or two; and it routinely turns out that the issue is not a defect with TFACTS that requires technical staff to fix, but instead is an issue that requires additional training or support to help the end user.

Customer Care Center leadership also indicated that these instances result from slow performance of the application. If the worker has not saved the information when they are timed out of the system for security reasons, the information will be lost and cannot be saved.

While the Department believes these explanations account for the majority of these instances, the Department has also acknowledged that some percentage is attributable to TFACTS defects.[47]

Regardless of the cause, however, the Department recognizes that it must address all three of those issues: in the case of worker entry errors, to provide workers with ongoing support and training to avoid such errors; in the case of system performance, to address and resolve issues that cause slowness; and in the case of defects, to identify and fix them. The Department also must more systematically identify missing data in the first instance so that these issues can be identified, diagnosed, and resolved.

Case managers were also asked whether they had entered something into a case in TFACTS and subsequently found the information appeared to be different from what they believe they had entered. The vast majority (92%) of those interviewed had not experienced information that they had entered being "changed." One case manager experienced changes to case service designations and acknowledged that the changes could have been made by another user. One case manager reported one instance of a Family Functional Assessment somehow including information on a child who was unrelated to the case. One case manager reported a single instance of a change being made in the case closure date following the closing of a custodial

[47] For example, the Department has identified a specific defect that can result in a case manager getting a message "no results found" when searching for case recordings, when they should be instead receiving a "system error message" indicating that because of a system error case recordings cannot be displayed. The case manager may therefore conclude that his or her case recordings have "disappeared" when in fact they simply could not be displayed at that time, because of the system error. The "error message" is logged in the server and therefore understood by IT staff, even though the "error message" is not displayed to the user. This defect will be addressed by a TFACTS build to be released later this month.

episode after adoption.[48] Of the remaining respondents, the situations reported by two involved defects that have since been fixed. In this sample of respondents, however, these incidents were the exception, rather than the rule. As noted above, 92% of respondents indicated that they had never seen data changed while in the system.

With regard to ease of use of TFACTS, the case managers interviewed reported a wide range of "comfort levels" with the system. Some case managers surveyed were much more confident in their ability to navigate the case file and felt much more knowledgeable about how to enter information, retrieve information, and fill out and generate forms, leading to greater satisfaction with the system.[49] Some, of course, felt less comfortable, and as a result experienced greater frustration with TFACTS.[50]

A large majority of case managers interviewed (90%) identified at least one aspect of TFACTS that they saw as working well, with some aspects frequently mentioned:

- Twenty-three commented positively about the fact that TFACTS is a single computer system with a family case file, which is a benefit because information is in one place in one system and is therefore more easily accessible.

- Seventeen case managers mentioned examples of how TFACTS reduces redundancy, including that information entered into one module can automatically populate another module, the ability to enter one case recording to record multiple activities instead of having to create multiple case recordings to document each activity individually (which would also require copying identical narrative into each such case recording), and the creation of the "revise button" for the permanency plan so that duplicative information does not have to be reentered. Eight case managers specifically mentioned the fact that the family case structure in TFACTS allows family information to be entered just once and then linked together rather than having to reenter the same information for every child in a family and every parent, as was the case with TNKids.

[48] When an adoption finalization is entered, the system terminates the custodial episode as of the date the order was entered. The case manager has to go back and enter the correct date into legal status.

[49] One case manager said, "I like everything. It is better than TNKids. We have features we didn't have before. They just didn't show us how to do it. They gave us a new good system, but not the tools to use it. One case manager said, "I like TFACTS…I can find my cases easily, I can find my case recordings…everything is really simple." Another case manager said, "I used to be in a bad system at my other job, so this is way better than that, quicker."

[50] One said, simply enough, "I hate TFACTS."

- Eight case managers also identified as positive the fact that TFACTS is web-based, which means that TFACTS can be accessed wherever a worker has an internet connection.[51]

While a number of case managers reported strengths of the system, there were also significant challenges identified by large number of case managers:[52]

- Forty-four case managers (53%) complained of being "kicked out of TFACTS," which is especially frustrating if it results in the worker losing a significant amount of work that had not yet been saved.

- Thirty-five case managers (42%) complained about the system being "slow," which could be the result of a problem with a worker's computer, with the bandwidth of the internet connection, with a TFACTS issue, or a combination of the three.[53]

- Twenty-eight case managers (34%) had difficulties with the printing and generating of reports and/or forms from TFACTS.[54] Case managers indicate that reports will not generate, and those that do are sometimes blank or contain information that is duplicated multiple times or outdated/incorrect that has to be whited out.

- Nineteen (23%) expressed frustration with the cumbersomeness of using the permanency plan module, especially in cases involving sibling groups, and the length and complexity of the printed plan that it creates.

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[51] Eight case managers could not identify even one positive characteristic of TFACTS, and four of those were strong in their negative reviews.

[52] Case managers often mentioned more than one challenge so the total number of challenges falling into the five bulleted categories exceeds the total number of case managers interviewed; and the percentages, if added, exceed 100%.

[53] The Department reports that it has, along with the State's Office of Information Resources and a contracted vendor, designated technical staff to diagnose the causes of these issues and identify potential solutions. This effort is to identify possible computer and network hardware and software factors that may be contributing to these types of service disruptions. OIS also reports that it has projects underway to upgrade significant parts of its infrastructure, which, OIS believes, will in the near term provide for increased levels of TFACTS reliability across the Internet. As part of this effort, the Department has recently begun installing a product called dynaTrace, which will allow OIS to monitor performance from a worker's computer, through the network, to TFACTS itself. Parts of that product have been installed and, according to the Department, have already identified performance issues that OIS staff are working to address. DCS is also in the process of distributing new computers across the State, which could further address some of these challenges.

[54] Forms are templates within the system that are typically completed on paper and entered into the system by the case manager. Reports pull information from specific modules (e.g. CANS, Permanency Plan, and listing of case recordings) into a summary format, and in some instances the case manager can customize the document for printing or save it in the system to be accessed at another time. The Department reports that it has begun the process of migrating forms and reports to a new technology called "Jasper." According to the Department, this new technology will present fewer performance issues and be more reliable for end users.

- Twenty-four case managers (28%) complained about various other ways in which TFACTS is not particularly user-friendly, requiring multiple "mouse clicks" to navigate through the system, and having some areas in which there is still some fragmentation of information and/or requirement of redundant data entry.[55]

These responses suggest that, as would be expected in a system of this size with a large number of end users, there are both positive and negative views regarding TFACTS. The preponderance of those views appears to be positive in important respects; however, the respondents still raised some significant concerns regarding the usability of the system. The TAC has provided those specific concerns to the Department in order to either confirm that remediation is underway or to begin remediation as expeditiously as possible.

C. Defects, Training, and Ongoing Support

1. The "All Defects" List

Initially, the Department was maintaining something called the "All Defects" list as a full record of any issue that was raised about TFACTS since even before its deployment in August 2010. The Department subsequently determined that the list was not useful for managing TFACTS improvements because:

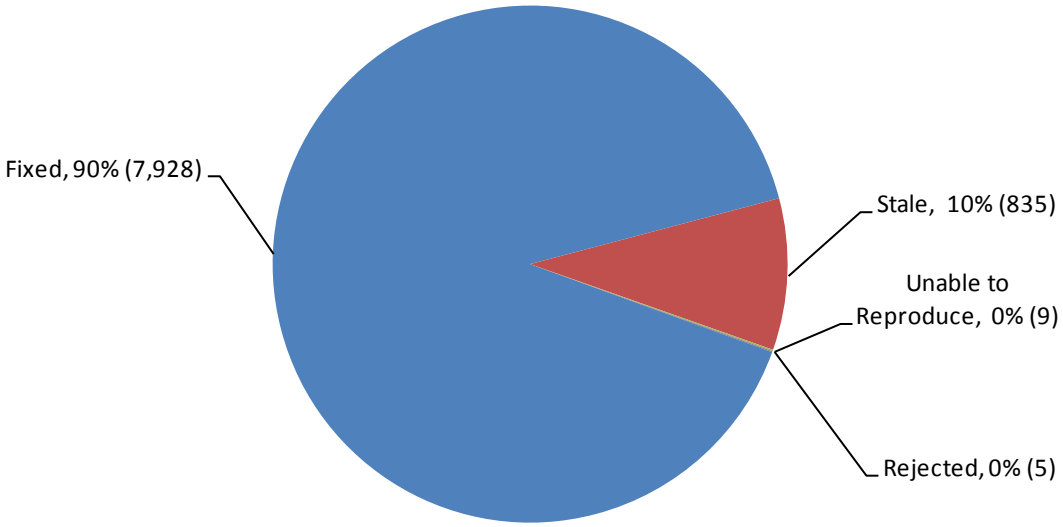
- some entries did not describe issues in enough detail so that they could be reproduced, a critical first step to fixing them;
- the list included entries that were duplicates of other entries;
- the list did not meaningfully indicate the priority of each issue; and
- the list included issues dating back to before the system's release, which meant that some of the issues were stale and could have been fixed in the interim.

In mid-2012, the "All Defects List" was re-examined by OIS in order to identify true outstanding issues that required resolution. OIS also decided to adopt internal processes to better manage the list moving forward, which OIS has continued to implement throughout the remainder of 2012 and into early 2013.

[55] One responded stated that "the burden is on the case manager to enter so that TFACTS reflects it's done. So many different fields that we have to ensure that we are populating so that when you pull a report, you can get credit…it is overwhelming for the case manager. We are doing more data processing than there is case management…We are taking a huge robust database and the burden is on us to populate those fields. It should be helping us, but the system is providing inefficiency because of redundancy."

In order to validate the Department's efforts to manage and address the list,[56] the TAC reviewed and analyzed the "All Defects List" as of February 28, 2013. As of that date, the list included a total of 10,490 items. Of those items, 8,777, or 84%, were closed. The Department closed items for different reasons, as shown in Figure 1 below.

Figure 1: All Defects List, Closed Entries as of February 28, 2013, n=8,777



As the figure above indicates, the Department reports that it has fixed 7,928 of the entries; 835 were closed as stale based on the age of the defect, ordinarily because the defect was more than 18 months old;[57] for the nine that were closed as unable to reproduce, when technical staff

[56] For purposes of this review the TAC has not made a distinction between "defects" in TFACTS and requested "enhancements" to TFACTS. As is common in information technology settings, the Department's IT staff have defined a "defect" to be a situation in which TFACTS does not act in accordance with its design; an enhancement, on the other hand, is defined as the situation in which the application works as designed, but end users request for the application to be designed differently. That distinction is more relevant to the manner in which IT systems are designed and built and is less relevant to the user experience. Ordinarily, an end user focuses solely on how the application functions and how the application should function; the end user is not ordinarily concerned with whether the design is incorrect or the manner in which the application is built is incorrect. Because the TAC's focus is on the end users (including both case managers and Department administration, neither of whom are likely particularly concerned whether the error is in a design or the application build), the TAC has instead considered all "defects" and "enhancements" as issues with TFACTS to be addressed.

[57] Closing defects as stale is fairly standard practice, on the premise that other changes to fix other defects (or possibly the same defect called in earlier) may have addressed those defects given the passage of time. In addition, as the Department notes, in the context of child welfare systems statutory, regulatory, policy requirements, and aspects of the practice model regularly change, which may make those defects irrelevant as well. Of course, if that

attempted to fix them they could not reproduce the defect as described, and so could not take steps to fix them; and, for the five that were closed as rejected, technical staff reviewed them and concluded that they were not actually defects because the application had been designed to function in that manner.

After the closure of those 8,777 items, the "All Defects" List contained 1,713 remaining entries. Of those 1,713 entries, 309 were assigned to staff who were working to resolve them and the Department was in the process of testing and deploying a fix for 208 more. After considering those three categories, there were 1,198 list entries outstanding.

For those 1,198 outstanding entries, the Department has categorized them in order to better understand and prioritize the work. The Department has first divided them into: issues with data incorrectly entered into the system that technical staff have to resolve; issues with the TFACTS application, that is, the screens that end users see and interact with; and issues with the reports that retrieve data from TFACTS. The Department has also divided the issues into "change requests," which are requests to modify the design; and "defects," which are most commonly thought of as "bugs" in the application, where the application does not work as it has been designed. Finally, the Department has assigned priorities to the majority of the remaining issues in ascending order, from Priority 1 (critical issues) and Priority 2 (major issues) to Priorities 3, 4, and 5, which range from minor issues to those that are even less significant, such as changing a misspelling in a label on a rarely-used screen. Priority-1 and -2 issues include requests for significant new reports and fiscal-related data administration tasks and requests. Priority-3 issues include, by way of example, TFACTS generating a notification on a closed case, error messages that individual end users have received on various TFACTS screens, and, in one case, a request to alphabetize the list of counties in a drop-down list.

Of the 1,198 outstanding issues, the Department has identified 513 that relate to the TFACTS application functionality, as shown in Table 2:

Table 2: Remaining TFACTS Application Functionality Issues, All Defects List, as of February 28, 2013

Defects		*Change Requests*	
Priority – 1	5	Priority – 1	3
Priority – 2	11	Priority – 2	4
Priority – 3	362	Priority – 3	4

is not the case the Department runs the risk that those defects may still exist and other end users may call them in again. While significant defects are more likely to have been resolved, so that it may be that these calls would more often be about less significant defects, cumulatively they can nonetheless be dispiriting for the field. And, given that the "All Defects" list has not been maintained well, the number of those closed as stale may be a reflection more of poor historical list maintenance than resolution of defects.

Priority – 4	39	Priority – 4	54
Priority – 5	0	Priority – 5	31
Total	**417**		**96**

The Department has identified a total of 417 remaining functional defects on the list. Sixteen of those have been designated as Priority-1 or -2, and all of those have been entered since November 2012, indicating that the Department has reported that it has resolved the longstanding defects that DCS believes have a critical or major impact on the application's functionality and has continued to identify new significant defects to address. The remaining 401 functional defects are designated Priority-3 and -4, meaning that, in the Department's view, they are of less significance to end users (although, of course, the Department must continue to address them). The Department has also identified 96 "change requests," or ways in which end users would like the Department to modify the original design of the application to work better. Seven of those have been designated as Priority-1 or -2, and the rest have been designated as Priority-3 or -4.

In addition to the 513 functional issues, there remain 625 outstanding data issues. For these issues, as discussed previously, the Department's Data Management group is typically required to change data entered incorrectly in the system by individual workers in individual cases. These ordinarily involve a worker entering incorrect or duplicative data in a field in the system that the system does not allow workers to change. For example, this can involve a worker erroneously entering a duplicative investigation, person record, or case record. Because the system will not allow the worker to change the data, the Data Management group has to perform a "scrub"—essentially writing a program—to make the change directly in the database. Unlike functional defects, which can affect every worker using the aspect of the system that has that defect, these issues ordinarily only impact one element of one case. As of February 28, 2013, the Department has indicated that there are a total of 625 data issues. Of those, 199 are classified as Priority-1, 124 are classified as Priority-2, four are classified as Priority-3 and -4, and 298 have no priority indicated.

Finally, there also remain 60 open issues pertaining to reports. Of those, 32 are classified as defects—one of which is a Priority-2, 28 are Priority-3, and three are Priority-4.

In sum, since the time TFACTS deployed the Department has identified 10,490 TFACTS issues that it documented in the "All Defects" list. Of those:

- 8,777 (84%) are closed;
- 307 (3%) are currently assigned to staff and are moving toward resolution;
- 208 (2%) have identified fixes that are in the process of being deployed;

- 417 (4%) are defects with the functionality, 16 of which the Department has determined to be critical or major;

- 96 (1%) are requests to change the design of the system (as opposed to fixing "bugs")

- 625 (6%) are predominantly individual data issues in individual elements of individual cases, rather than system issues that impact many workers throughout all of their cases;

- 60 (1%) relate to reports, with the vast majority of report defects categorized as Priority-3 and -4.

The Department reported that there were 1,735 open entries on the "All Defects" list outstanding as of January 2012. And, as noted, as of February 28, 2013, there were a total of 1,198 entries, a net reduction of 537 open entries during that period.[58]

2. Training

During the survey of case managers discussed in subsection B above, the TAC asked case managers about both initial and supplemental TFACTS training. Of the 81[59] case managers who had received TFACTS initial training, 20 received the training as a part of new worker training, 56 as an in-service training, four were trained during their BSW stipend student internship, and one was selected to attend a super-user training. Those case managers who received the initial training indicated that the training ranged from slide show presentations and computer-based trainings with no interaction and manipulation of TFACTS to hands-on training in a computer lab for one or more days.

Of the 81 case managers who received training, 59 (61%) felt either "prepared" by that training (15; 19%) or "somewhat prepared" (34; 42%). Thirty-two (39%) case managers did not feel prepared to begin working in TFACTS.[60] Case managers who felt unprepared indicated that it

[58] It is important to note that a list such as this is not static: as the Department resolves list entries, new issues will be identified based on new or existing functionality, new data errors made by end users, and new enhancements requested. This is appropriate; the overall objective is to identify as many issues as possible to continuously improve the system over time. As a result, "working down" a list such as this will not result in a straight decline in the overall number of entries. As the Department closes entries and removes them from the list, new issues will be identified, which will add to the list. In a list such as this, which includes both defects and enhancements, the objective is less to eliminate the list in full and more to shift the composition of the list from defects to enhancements over time.

[59] One case manager reported not having received any TFACTS training and another case manager was a part of the testing and creation of training materials in the pilot region (Mid-Cumberland).

[60] One case manager expressed that training was not helpful, but did not rate the experience. That information was compared to other case manager responses and a rating was assigned. In four instances, case managers did not decide between two ratings and one rating was assigned.

would have been more helpful if their training had coincided with implementation instead of having a time gap between training and TFACTS implementation. Many case managers indicated that the initial training had been very basic, and it would have been more helpful if additional hands-on training had been offered to introduce case managers to the various pieces of the system.

Twenty-seven of the case managers surveyed indicated that they had received TFACTS training within the last six months. When asked whether recent TFACTS training improved their ability to do their job, 15 of the 27 (56%) indicated that the training very much improved their ability to do their job, 9 (33%) indicated that the training marginally improved their ability to do their job and three (11%) indicated that the training did not improve their ability. Of the three who did not feel that their ability to do their job benefited from their recent training, two indicated that training would have been more useful if it was hands on and interactive, and one felt in-person training would have been more beneficial than the webinar that she watched. Case managers also expressed that it would be helpful to have a variety of easily accessible training options and materials, such as webinars, hands-on labs, and manuals.

The Department has previously acknowledged the deficiencies in training reflected in those findings and has begun to remake the manner in which it provides TFACTS training to workers. In July 2012, DCS moved the TFACTS training function in-house from a contracted vendor, the Tennessee Center for Child Welfare, and created four full-time positions dedicated to TFACTS training. Of the four positions, three are within the Department's Office of Human Resources and have been deployed around the state to provide training directly, and the fourth, which is within OIS, serves as the TFACTS Program Manager. In order to maintain the connection to the Customer Care Center, the Department has asked the CCC's Manager to assume a joint role as the TFACTS Program Manager. That staff person has significant experience in the field and with TFACTS, and in fact has also worked on SACWIS systems in other jurisdictions. In this new role, the TFACTS Program Manager will participate in sessions in which technical and program staff are designing modifications and enhancements to TFACTS in order to coordinate curriculum creation and updates and offer input based on potential field concerns about proposed designs. In addition, the TFACTS Program Manager will oversee and manage the databases used for training and provide some training directly.

The Department's new training leadership candidly identified the historical training and TFACTS support deficiencies, surfacing most prominently that the TFACTS training:

- did not include providing staff with comprehensive "hands on" experience with the system, instead relying on a trainer to show staff basic navigation only;

- was not adequately targeted to the various functional roles that staff have throughout the agency or to employees of private providers that also use the system;

- did not help staff understand the underlying rationale behind system functions;

- was disconnected from overall pre-service training, so that staff would participate in pre-service training and then not be positioned to relate the training about their work to how to document that work in TFACTS; and

- did not proactively account for changes made to TFACTS.[61]

The Department's training leadership has a sound vision to better train and support staff using TFACTS, which the Department must implement with urgency. The training leadership has already moved the delivery of the TFACTS pre-service modules to immediately follow the completion of classroom training on DCS policy and practice and to occur before "on the job" training in the offices. In addition, the Field Customer Care Representatives (FCCRs) also reported that the training staff are open to and seeking their input regarding the training needs of staff in the field. In fact, the training staff conducted a training attended by the FCCRs in order for the FCCRs to provide feedback and constructive criticism to improve the training for end users.

3. Ongoing Support

The DCS Self-Assessment identified a plethora of problems with the then-existing TFACTS Help Desk. In a chapter of the assessment identified as "Inadequate Help Desk," the assessment identified specific issues including:

- Lack of Customer Focus

- Inadequate or No TFACTS Help Desk Training

- Inadequately Staffed Help Desk

- Too Much Reliance on Co-op Students

- No Help Desk Service Level Agreements[62]

[61] In addition, the Department's new training leadership admitted that the functionality of TFACTS online help was suboptimal.

- Excessive Response and Resolution Time

- Ineffective Use of the Remedy Help Desk Software

In April 2012, in response to those concerns, the Department changed the manner in which it provides ongoing TFACTS support to field staff by creating the TFACTS Customer Care Center (CCC). The CCC consists of three teams of staff: the TFACTS Customer Care Team, the TFACTS Field Customer Care Team, and the DCS Enterprise Service Desk. The TFACTS Customer Care Team is now a group of staff, often with experience in the field as case workers, who serve as an ongoing help desk and call center accessible by telephone or email. Customer Care staff have expertise in the various TFACTS modules and work to address questions and concerns raised by field staff. These staff also have the ability to access a caller's computer remotely to show the caller how to resolve the issue on their screen. The TFACTS Field Customer Care team is comprised of staff who work in the regions to provide on-the-ground, in-person support. These Field Customer Care Representatives (FCCRs) conduct regular site visits to office locations within their designated regions to provide TFACTS support and supplemental training in both individual and group settings. The FCCRs are a very seasoned group, many of whom have been with the Department for years: 10 of the 13 FCCRs had prior experience in the field, six with more than 20 years and four with more than 10 years. The TFACTS Customer Care Center also includes the DCS Enterprise Service Desk, which addresses questions related to information technology other than TFACTS, such as hardware, other software, passwords, and the like. The TFACTS Customer Care Center is supervised by a manager with significant experience in the field and with TFACTS.

The CCC conducts periodic satisfaction surveys. According to the Department, as of January 2013, survey results showed a customer satisfaction level of 8.74 with the TFACTS Customer Care Center and 9.51 with the TFACTS Field Customer Care Representatives, both on a scale of 1 (poor) to 10 (outstanding).

The CCC also interfaces with a group of staff, known as "super-users," who are based in field offices and who informally provide ongoing support to field staff in their region. These are end users who have demonstrated interest and aptitude in the use of TFACTS. The CCC leadership convenes periodic meetings with these staff to identify issues and challenges with TFACTS in order to provide ongoing support to them and to the field staff generally. Because this is an organic strategy, it can have mixed results; when an effective super user is available that person can provide meaningful support, but a super user may or may not in fact be available.

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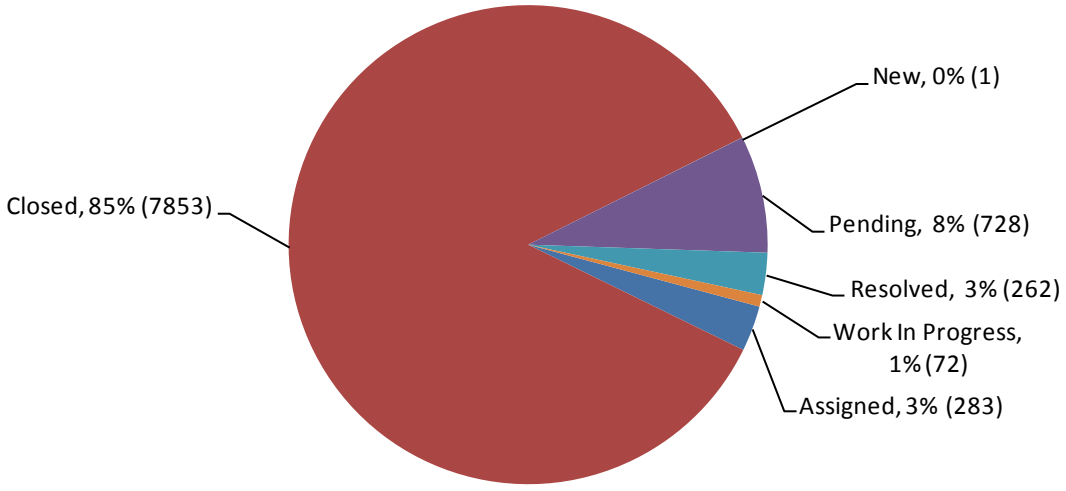
[62] Service Level Agreements, or SLAs, represent performance standards that a help desk (in this instance) would strive to achieve. The assessment recommended the implementation of SLAs that focused on call answering, call resolution, and level of customer satisfaction.

The case manager survey asked workers how they obtain help with TFACTS issues. Case managers typically utilize their peers, then contact their FCCR if they have not resolved the issue, and finally the TFACTS Customer Care Center as a last resort. Those case managers who utilized the FCCRs, super-users, and TFACTS Customer Care Center generally rated that support as helpful and reported that their issues were addressed quickly and that their concerns were typically resolved.

In order to assess the magnitude of contacts from the field to the CCC regarding the TFACTS system, the TAC reviewed an extract from the database that the Department uses to track those contacts for the 12-month period from January 2012 to January 2013. During that period, the CCC logged a total of 30,035 contacts, whether by telephone, email, or in-person discussion. Because the CCC also includes the DCS Enterprise Service Desk, those contacts include more than just TFACTS-related issues; they also include contacts regarding all other information technology-related issues, such as requests to reset general passwords and hardware-related questions (printers, desktop computers, etc.). Of the total contacts, 9,199, or just over 30%, related to TFACTS itself. As of January 2013, the Department reported that the vast majority (85%) of those requests for TFACTS assistance to the CCC had been closed, as is detailed in Figure 2 below:

Figure 2: TFACTS Related Customer Care Center Contacts, January 2012 through January 2013, n=9,199



The Department uses the following definitions for the categories in the figure above:

- *New:* a help desk ticket has been created but has not yet been assigned to a designated group for resolution;

- *Assigned:* a help desk ticket has been created and assigned to a group for resolution;

- *Work in Progress:* the work to resolve the ticket has begun;

- *Resolved:* the CCC staff person has finished working on the ticket and confirmed with the caller that the issue has been addressed;

- *Closed:* seven days after the CCC staff person designates the ticket as "Resolved," the help desk software system used by the Department automatically designates that ticket as "Closed;" and

- *Pending:* the ticket cannot be closed because the CCC is awaiting some other action.

More specifically, the contacts marked "Pending" largely pertain to changes that must be made in TFACTS. Of the 728 "Pending" entries, 313 are coded as requiring a "database fix" and 350 are coded as "defect." (The remaining 65 are awaiting additional research or information.) Those that are coded as "defect" include a wide variety of issues impacting callers, such as trouble printing a CANS or FAST assessment form, difficulty attaching a scanned document, or receiving an error message when attempting to complete work in the system. Those that are coded as "database fix" are predominantly *ad hoc* data corrections on individual cases that must be made by OIS staff through the database, such as deleting mistakenly-entered duplicate people or investigation records. The median age of the "pending" as of January 2013 was 102 days, or approximately three and one-half months.[63]

During the TAC's focus group with FCCRs, they described the transition to TFACTS as difficult but said that they believed that progress has been made with TFACTS and that end users have begun to accept the system more. The FCCRs also identified many of the same issues identified by the case managers in the TAC's survey, indicating that FCCRs have a good sense of the issues facing the field. The FCCRs characterized those issues largely as involving training, rather than specific TFACTS defects. As the FCCRs described it, end users will often raise an issue which the end user believes is a global issue with TFACTS. When the FCCRs follow up, the end users typically acknowledge that it is just an issue that happened once or twice on a case or two, and it routinely turns out that the issue is not a defect with TFACTS that requires

[63] For those contacts that result in defects, the CCC routes them to technical staff who add them to the "All Defects" list discussed above.

technical staff to fix, but instead is an issue that requires additional training or support to help the end user.

D. The Department's Response to Challenges Posed by OptimalJ

During the past year, issues were identified in the Comptroller's Report and by Plaintiffs around current and future problems derived from TFACTS's use of OptimalJ. OptimalJ is a model-driven development environment for Java, a commonly-used computer programming language. In essence, OptimalJ is a tool that IT staff can use to develop software programs. IT staff use the OptimalJ tool, which is itself a software package, to build models that reflect the manner in which they intend the application to function, and the OptimalJ tool will write the actual Java code to create the application. Using this tool, IT staff do not have to write the actual Java code manually. The OptimalJ tool was used in the development of the Ohio SACWIS system, which was the system that was transferred to Tennessee that became TFACTS. The majority of the TFACTS system was not built using OptimalJ; it was, instead, coded manually. To be clear, using OptimalJ is only necessary when modifying the code written by OptimalJ; it is not necessary to the day-to-day functioning of TFACTS or even to modify TFACTS code written outside of OptimalJ. If the Department discontinued using OptimalJ, TFACTS would continue to function exactly as it does today. OptimalJ is only implicated when the Department needs to modify the OptimalJ-generated code in TFACTS.

In 2008, Compuware, the manufacturer of OptimalJ, decided to discontinue support for OptimalJ. At the time, the Department was made aware of that decision but nonetheless instructed Dynamics Research Corporation (DRC), the primary contractor building TFACTS, to move forward using OptimalJ in order to avoid delaying the project. (DRC had partnered with Compuware on the Ohio SACWIS project.) In both the Comptroller's report and the Self-Assessment, significant concerns were raised about the use of OptimalJ. The reports indicated that the OptimalJ tool had been used improperly during the development of TFACTS, leading to deficiencies in a portion of the TFACTS code. In addition, the use of OptimalJ presented concerns about whether DCS will be able to migrate the system to a current, supported technology environment, and whether, because OptimalJ had been discontinued, the Department would be able to find qualified staff–either within the Department or by contracting with an outside vendor–who could use the OptimalJ tool to fix the deficiencies and to modify TFACTS going forward.

In response to those risks, the Department has taken two key steps during the last year. First, the Department retained Compuware, the manufacturer of the tool, to assess the models within TFACTS that were built using OptimalJ. Compuware's charge was to identify any problems or other risks. Compuware completed the assessment, identified a number of problems, and made a series of recommendations to address them. At the conclusion of that assessment, the

Department then retained Compuware to (1) implement the recommendations that it had made in its assessment; and (2) provide training and coaching to the Department's technical staff on the use of the OptimalJ tool so that they can use the tool to modify TFACTS going forward. The Department expects this work to be complete by June 30, 2013, which should address the short-term concerns around the improper use of the OptimalJ tool and provide the Department staff with the ability to use the tool going forward. Second, the Department has asked Compuware to assess the cost and risk of migrating TFACTS to a supported environment, which the Department has begun working towards. When complete, that transition will extend the time that the Department has to address the OptimalJ issues for several years.

Even with those concerns addressed in the near term, because the tool remains unsupported going forward, the Department intends to migrate away from its use of OptimalJ over the long term. To that end, the Department requested that Compuware provide options and recommendations regarding possible approaches for such a migration, and Gartner has reviewed those recommendations. Based on that review, Gartner has suggested that the Department issue requests for information/proposals to vendors regarding three options: (1) hire Compuware to use the advanced features of OptimalJ to rewrite the existing OptimalJ code so that it can be maintained manually or by a tool similar to OptimalJ that remains supported; (2) hire another vendor to refactor the code (*i.e.*, to take the existing code and rewrite it so that it can be supported, again manually or by a tool similar to OptimalJ); and (3) contract with a vendor to maintain the OptimalJ code for the foreseeable future, shifting the risk from the Department to the vendor.

APPENDIX I

TFACTS
(Tennessee Family and Child Tracking System)

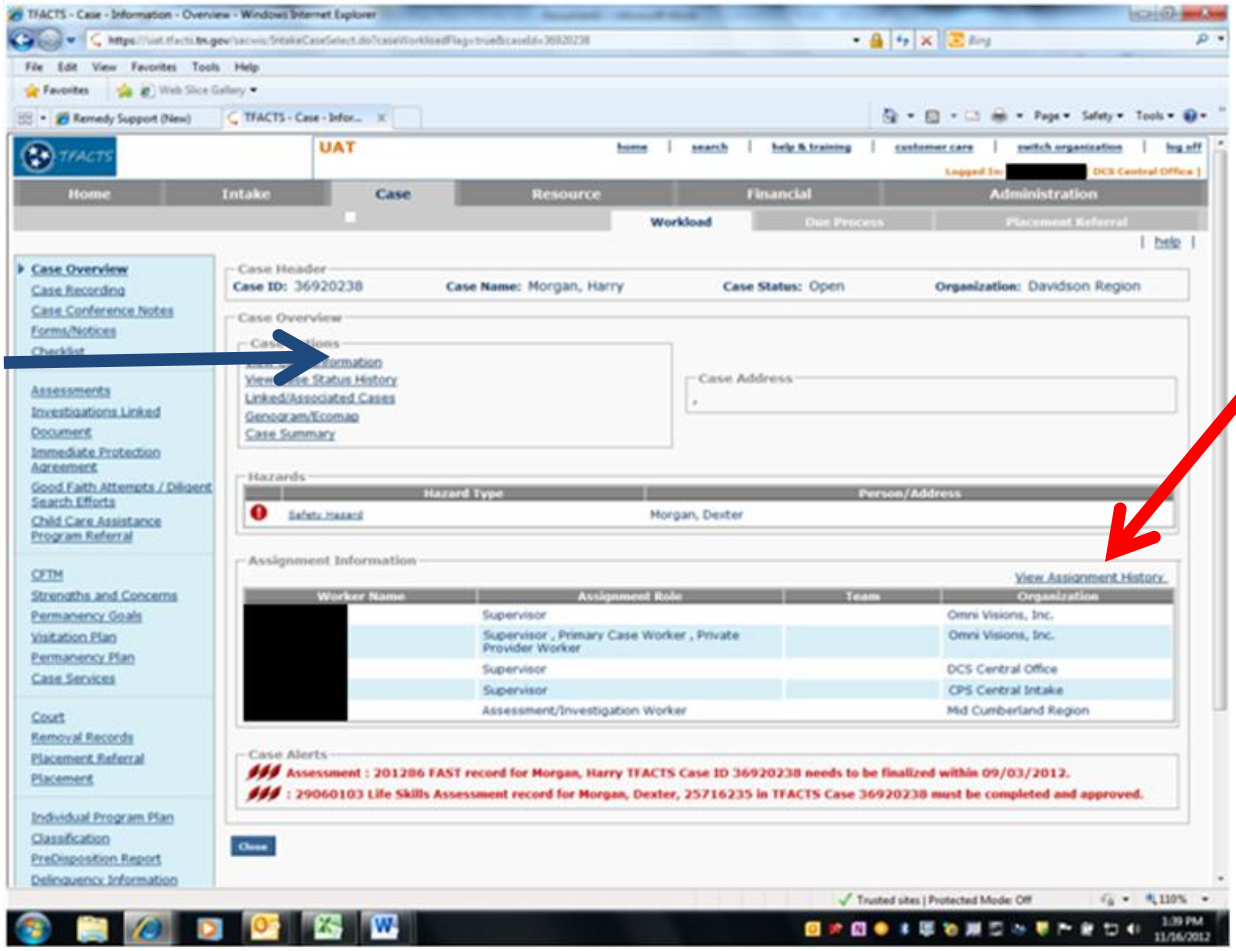
Screen Shots for the Key Elements Review

Table of Contents

TFACTS SCREEN SHOTS

Below is a screen shot of a 'Case Overview' screen. The Case Overview page acts as a "Home" page for each case. This is the launch pad to all other modules and sections of TFACTS for a particular case. The case used here is not a real case.

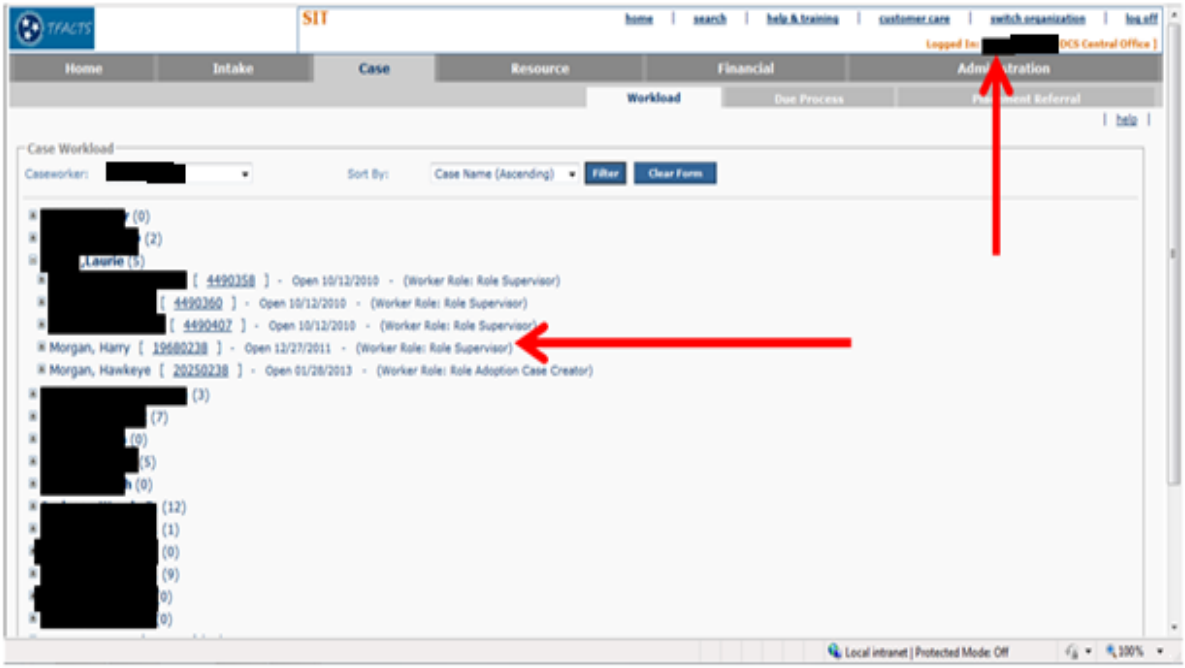
Case Overview Screen



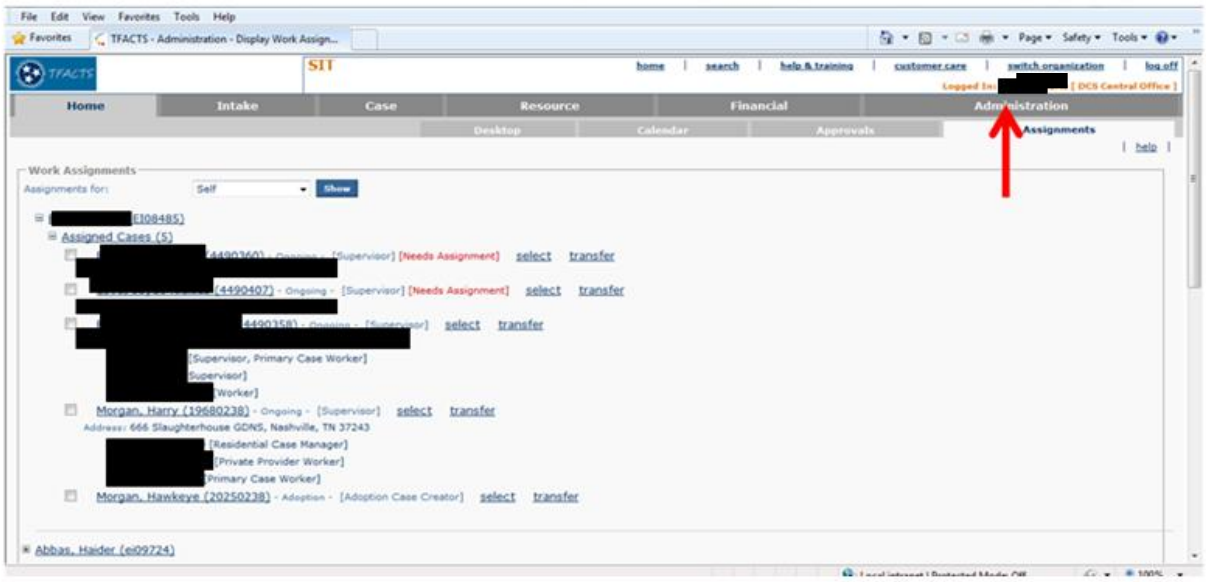
In the Assignment Information group box, you will see a list of persons who are currently assigned to the case, along with their Assignment Role and Organization. You can also click on the 'Assignment History' hyperlink to view a list of all persons who have ever been assigned to the case, with roles and dates of assignment. This covers the following elements:

Team Leader ←

Team Leader Workload View

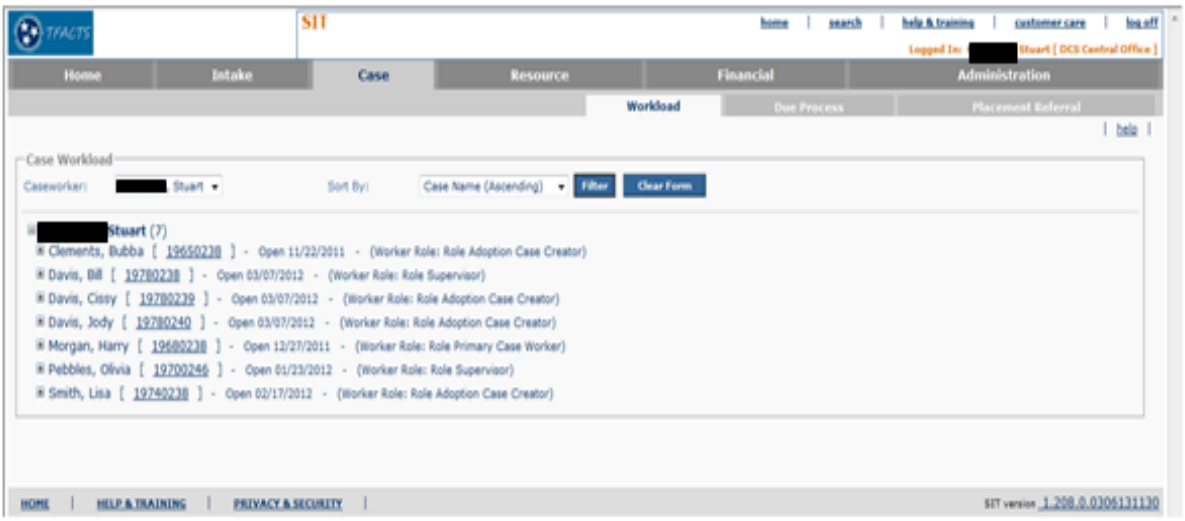


Team Leader Assignment View



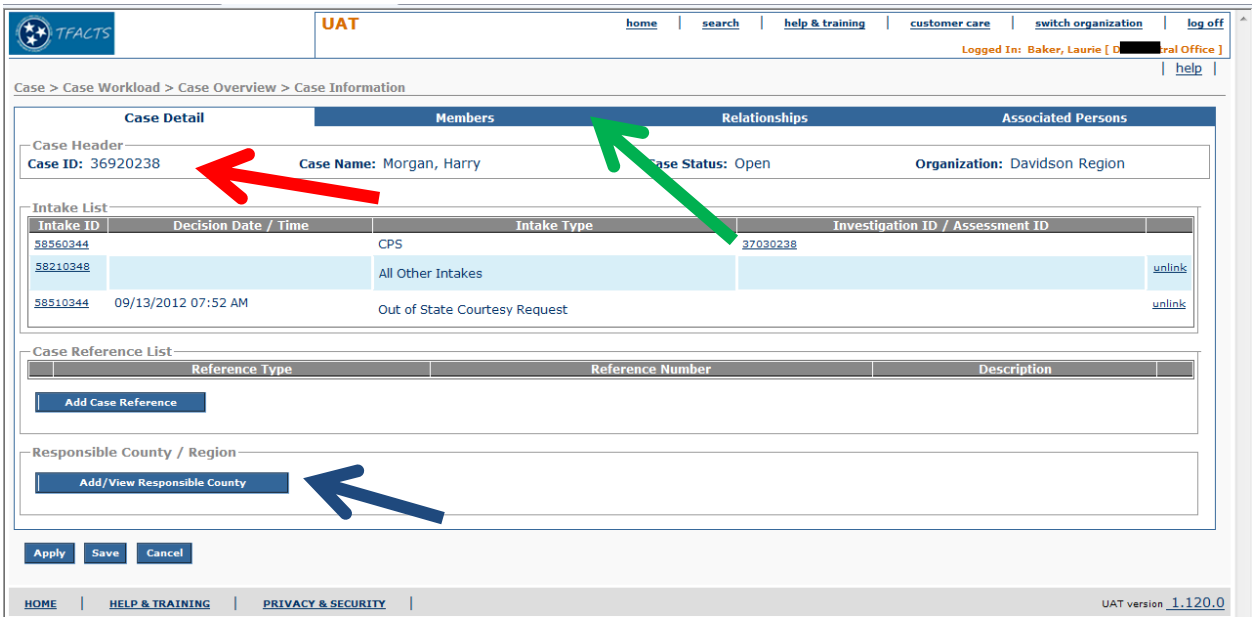
Primary Case Worker

Caseworker Workload View



In the Case Actions group box on the Case Overview screen shown on page 1, click on 'View Case Information'. You will be presented with the following screen:

Case Information Screen



Note the **Case ID** in the Case Header. The Case ID is a unique identifier that is generated by TFACTS at the point of case creation.

Click the 'Add/View Responsible County' button to find:

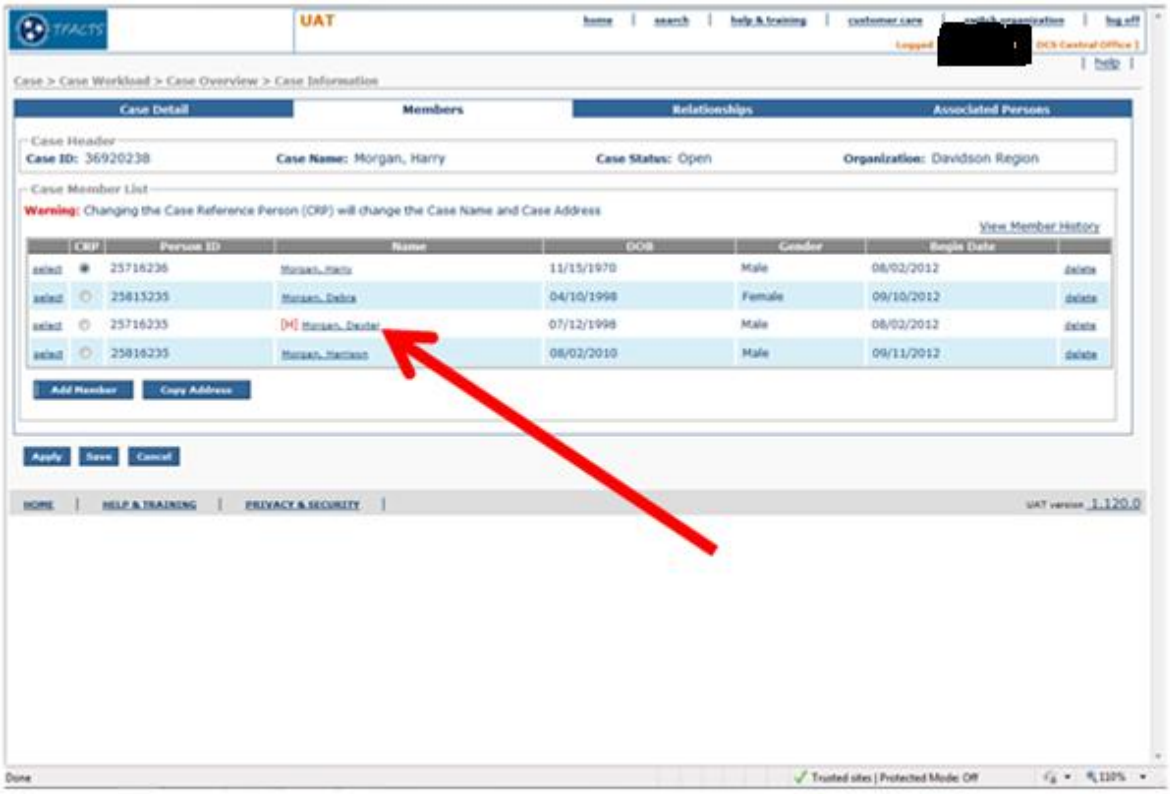
Case ID

Assignment Region

Assignment County

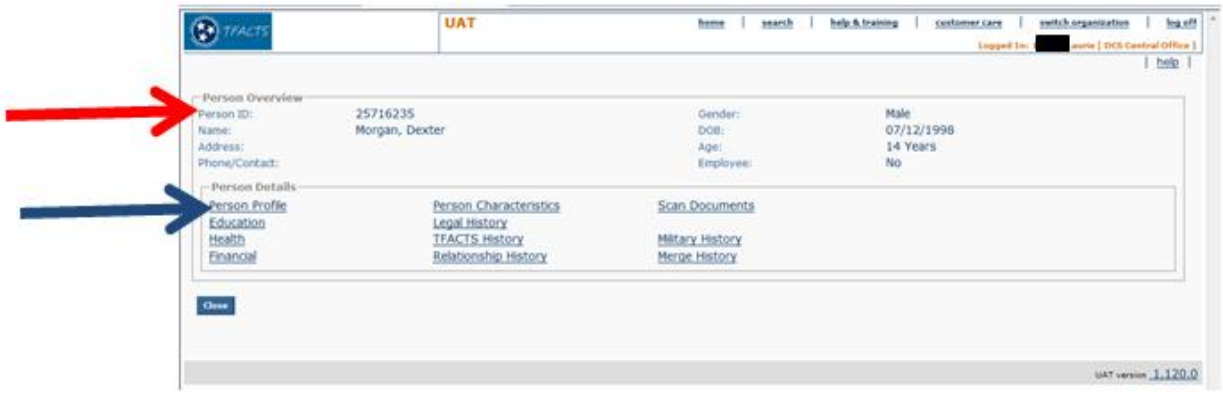
Now click on the 'Members' tab.

Case Information – Members Screen



Each members name is a hyperlink. To navigate to information about that specific member, click on the name hyperlink. This will navigate you to the Person Overview screen.

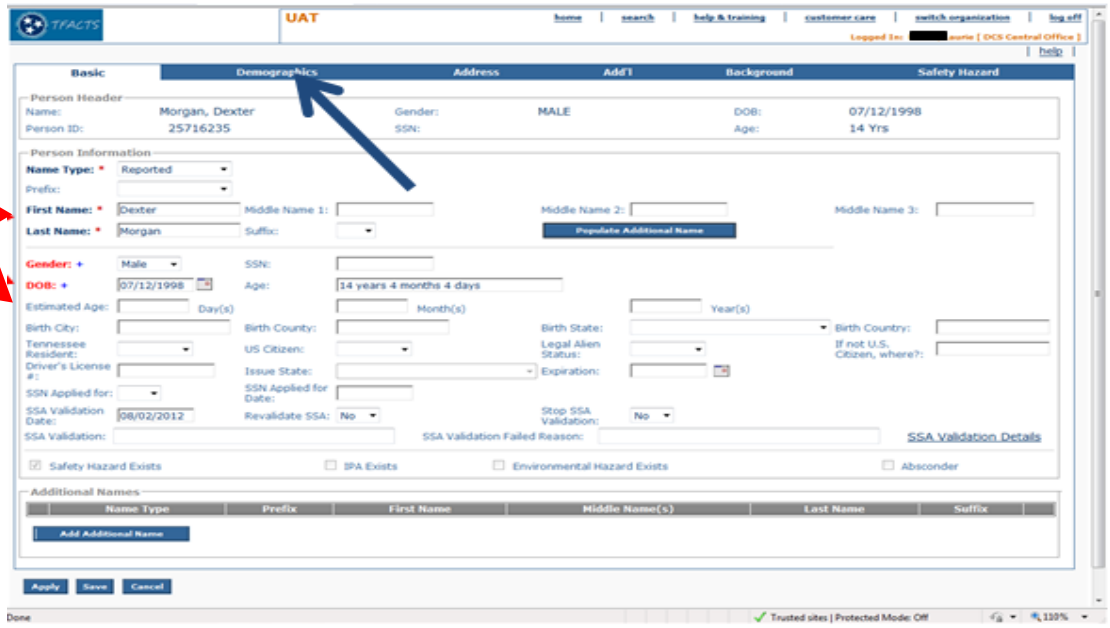
Person Overview Screen



Now you no longer have a case in focus, but a person in focus. Note the Person ID (**called Client ID in Mega Report)** in the Person header.

Click on the 'Person Profile' link.

Person Profile – Basic Screen



Note the Person (Client ID) still in the header.

Here you get the following elements for your review:

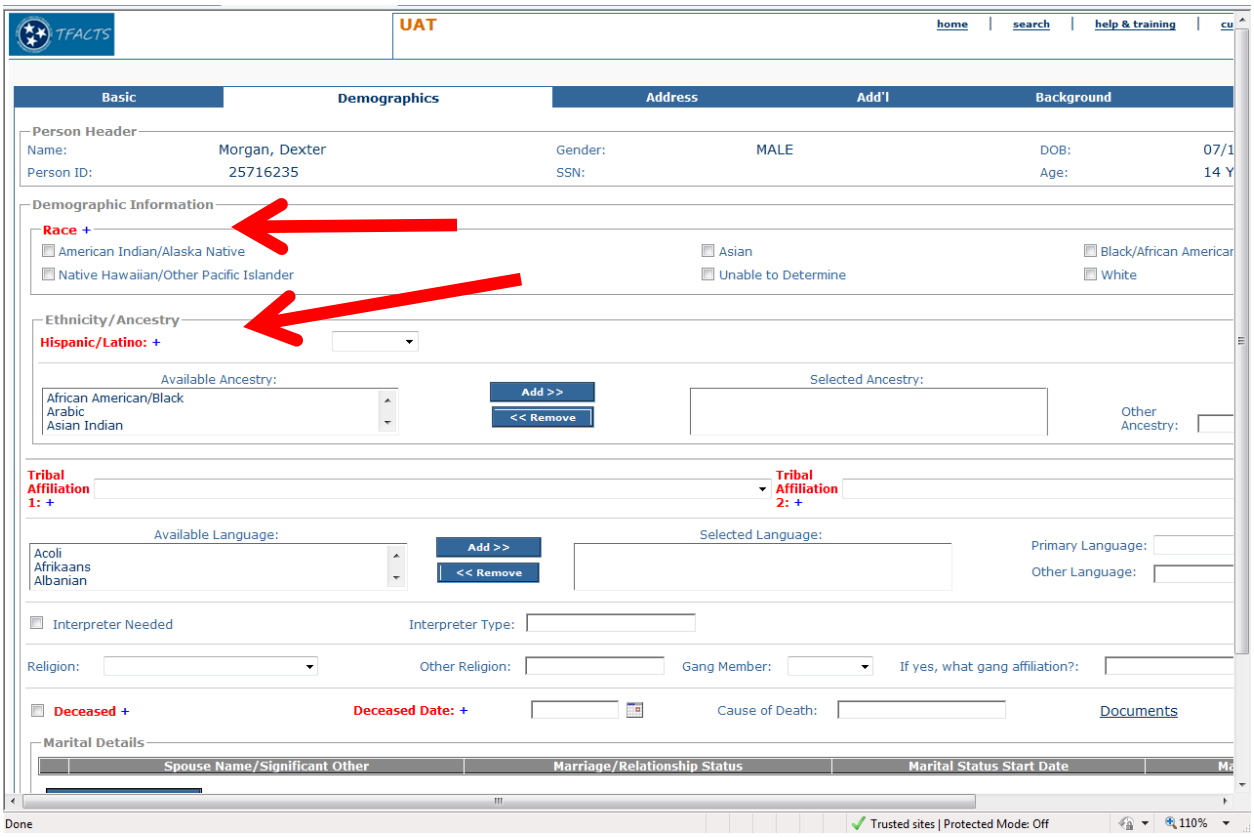
Client's Name

Client's Date of Birth

Client's Gender

Now click on the Demographics tab.

Person Profile - Demographics Screen

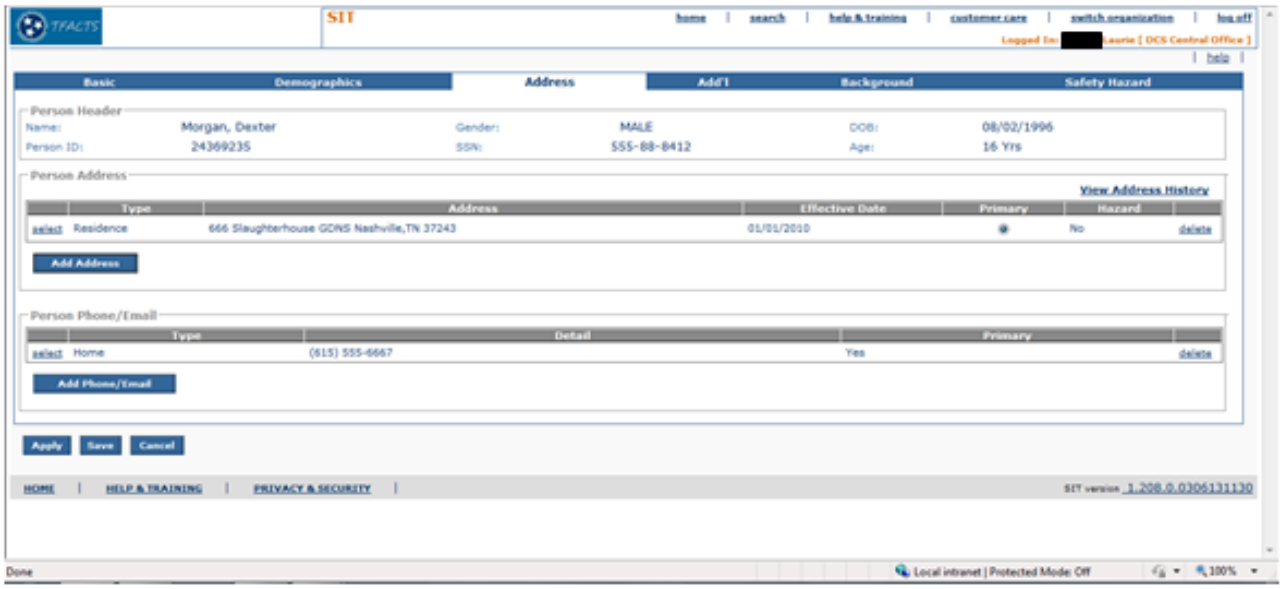


Here you find the following elements:

Client's Race

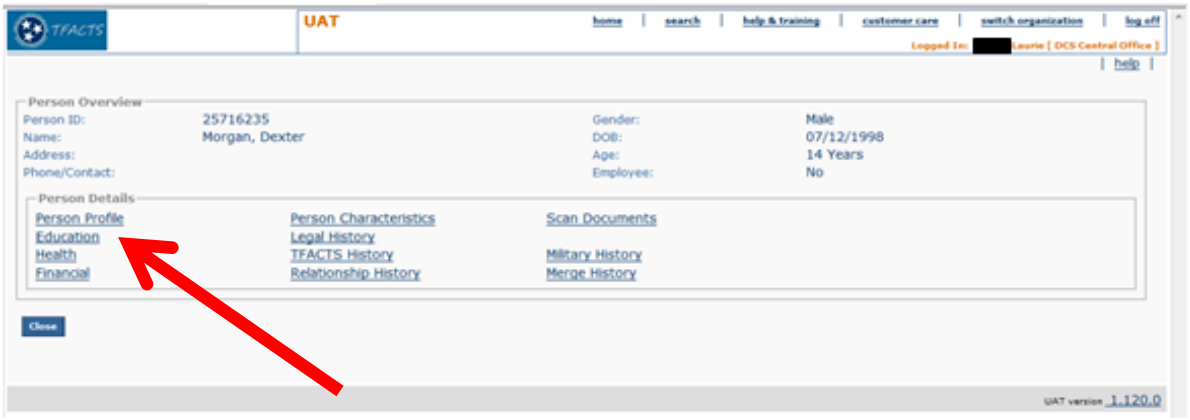
Hispanic Origin

Person Profile - Address Screen



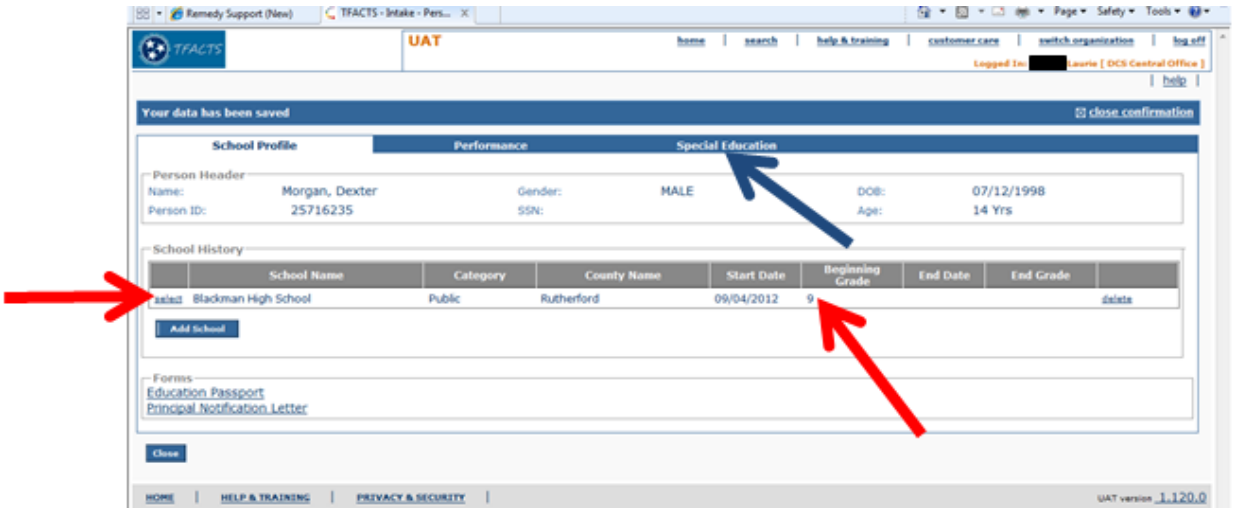
Person Address information is collected and maintained here. **Removal Address** and **Placement Address** (Trial Home Visit) are derived from the Person Address tab for members of the case.

Person Overview Screen



Click on the Education link.

Person Education – School Screen



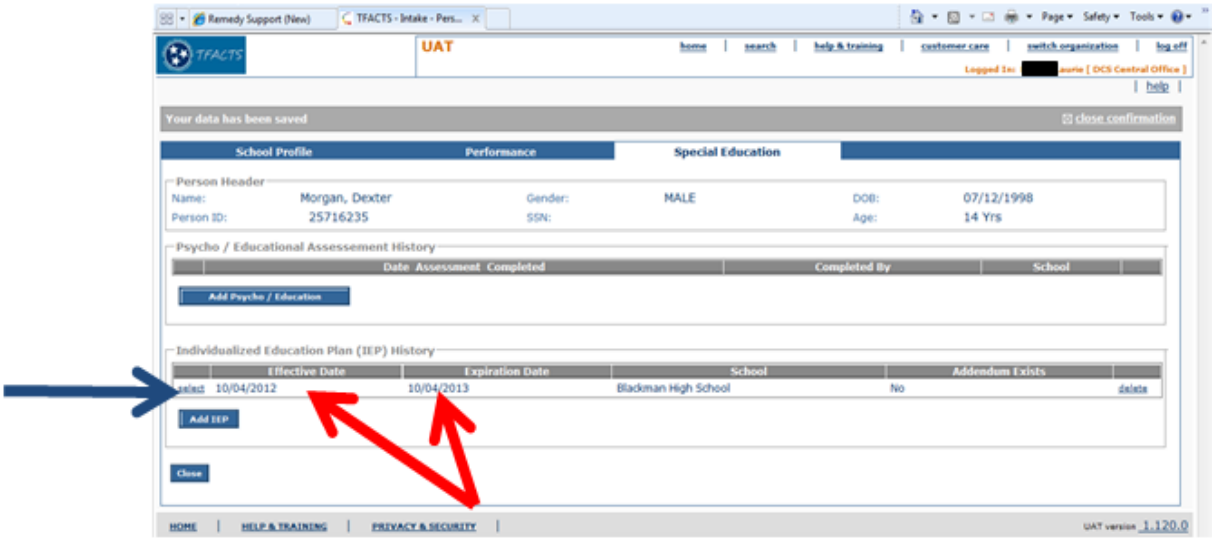
Here you find the following elements:

School Name

Grade

Now click on the Special Education tab.

Person Education – Special Education Screen



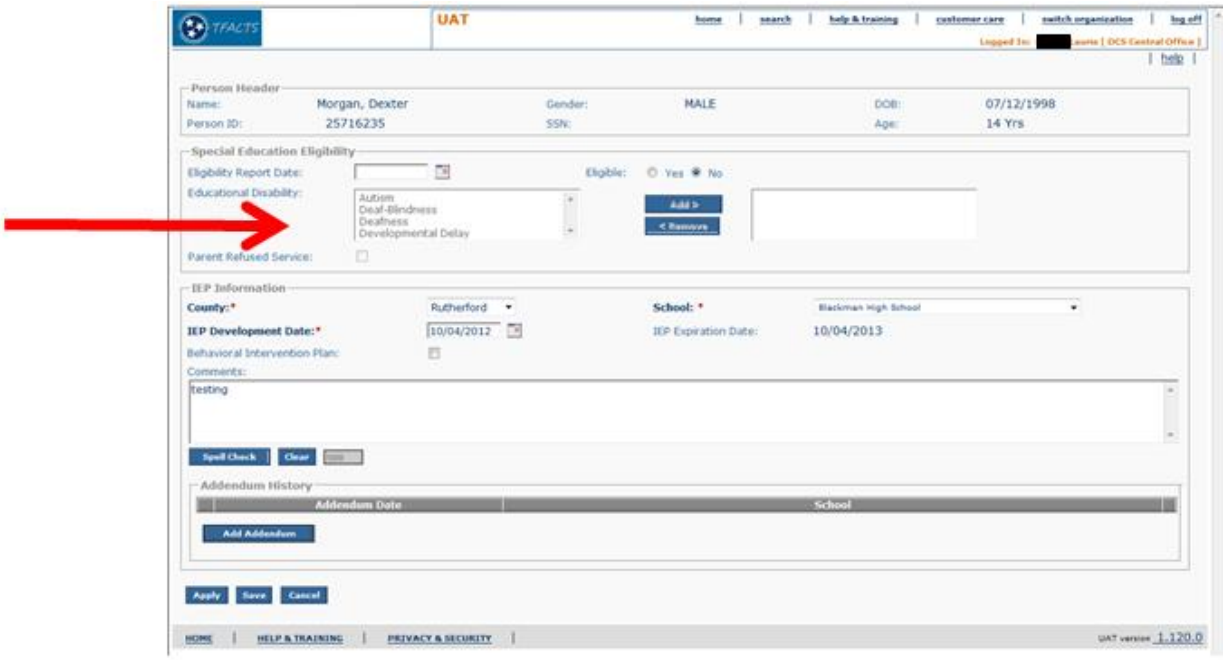
Here you will find the following elements:

IEP Effective Date

IEP Expiration Date

Click the 'select' link.

Person Education – Special Education – IEP Detail Screen

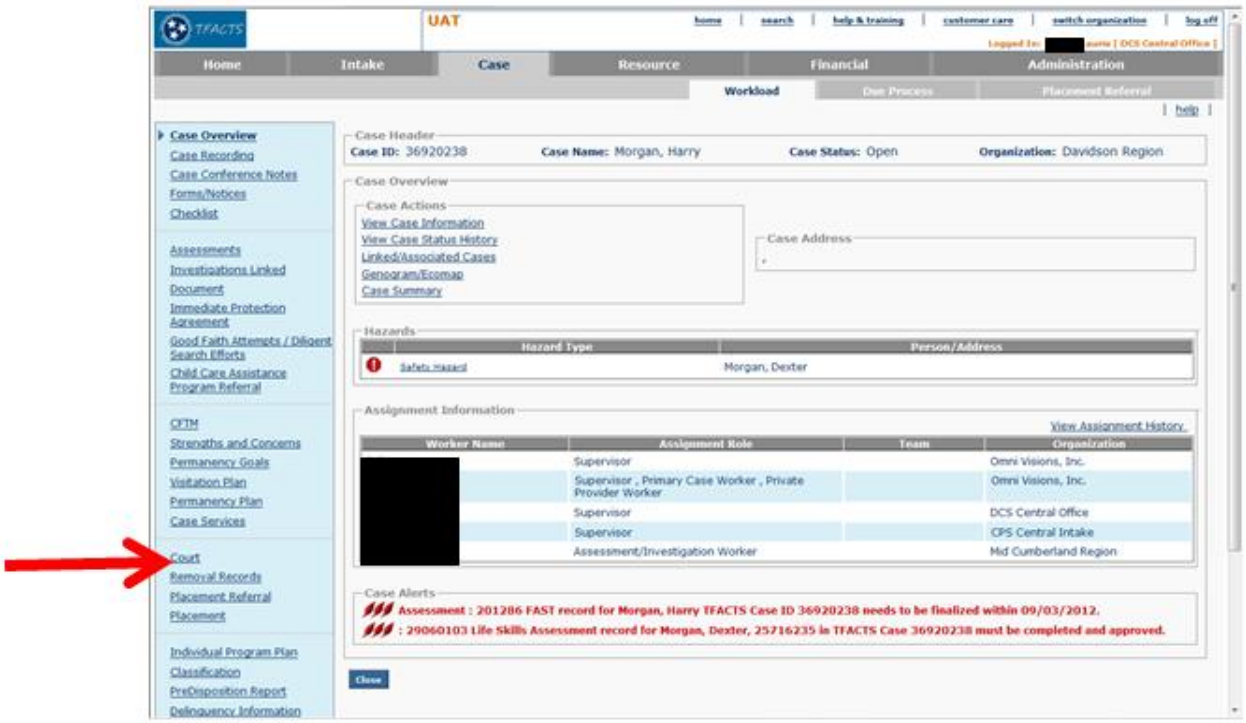


Here you can view the following element:

IEP Disability 1 – 5

Click ‘Cancel’, then ‘Close’, then ‘Cancel’ to return to the Case Overview Screen.

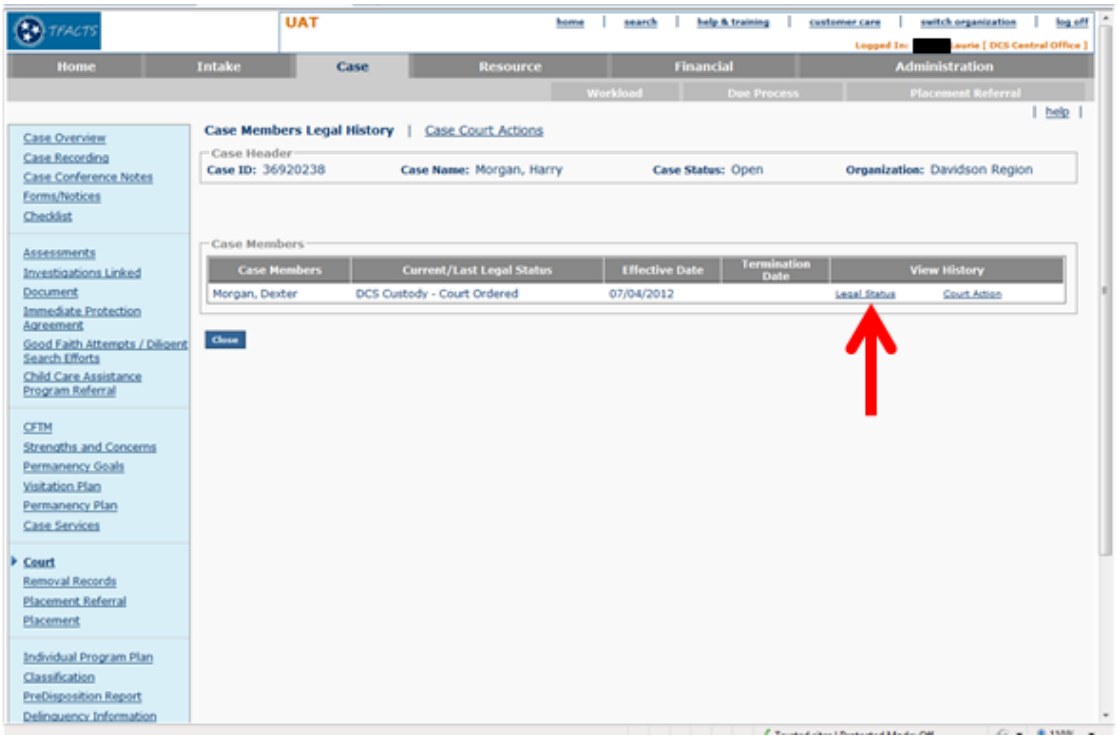
Case Overview Screen



Click on the ‘Court’ link in the left side (blue) navigation bar.

This will bring up the Case Members Legal History screen.

Case Members Legal History Screen



To view a person's Legal Status history, click the 'Legal Status' link.

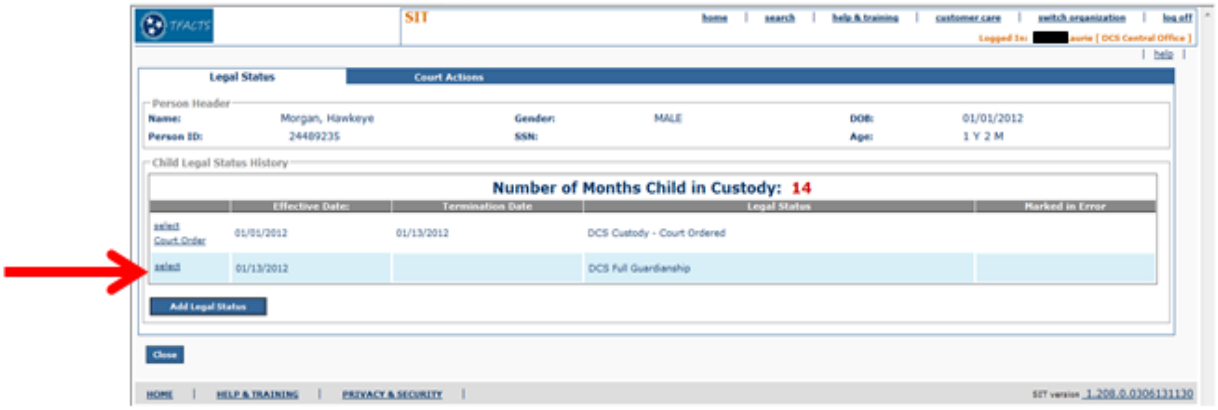
Legal Status History Screen

Here you can find the following elements:

Custody Date (called effective date on screen…is day custody episode began)

Termination Date (custody episode end date)

Below is the same screen, only for a child who is in Full Guardianship. For a child in full guardianship, a termination date reflecting the ending of the child's status in the family case would show on the Legal Status screen for DCS Custody, but does not terminate custody and would not show up on the Mega Report as an Exit date. For these children, look on the Legal Status screen for the Full Guardianship status.



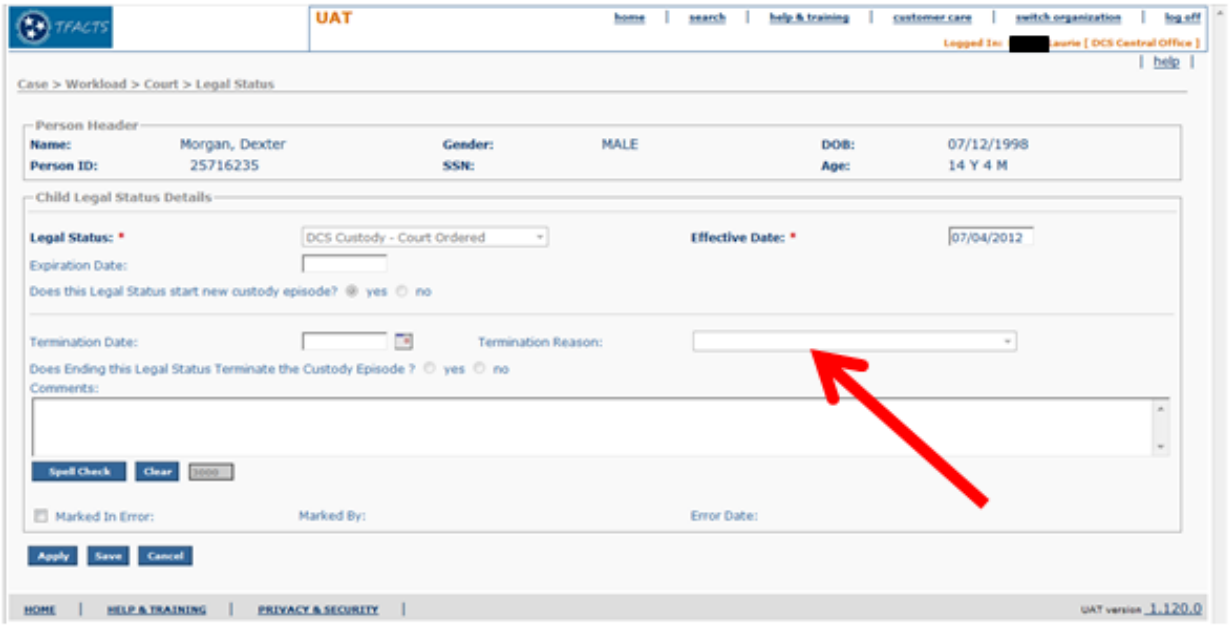
For those persons who have multiple episodes, you can also determine the following from the Legal Status History.

Previous Custody Start Date

Previous Custody End Date

To view additional detail about a specific Legal Status record, click the 'select' link next to the status record you wish to view.

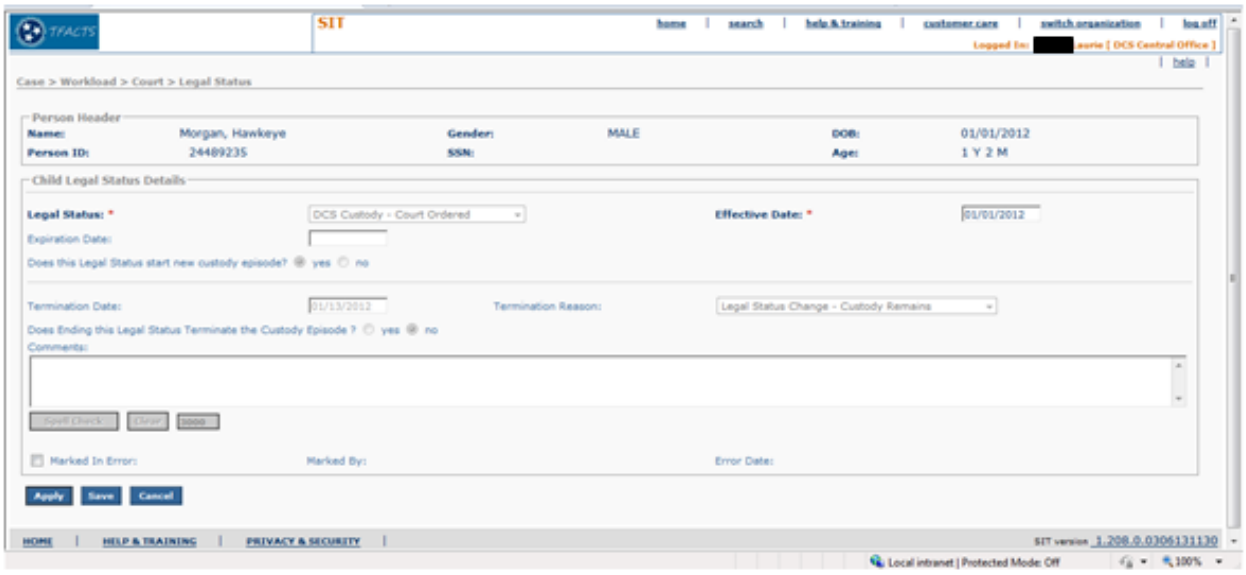
Legal Status Detail Screen



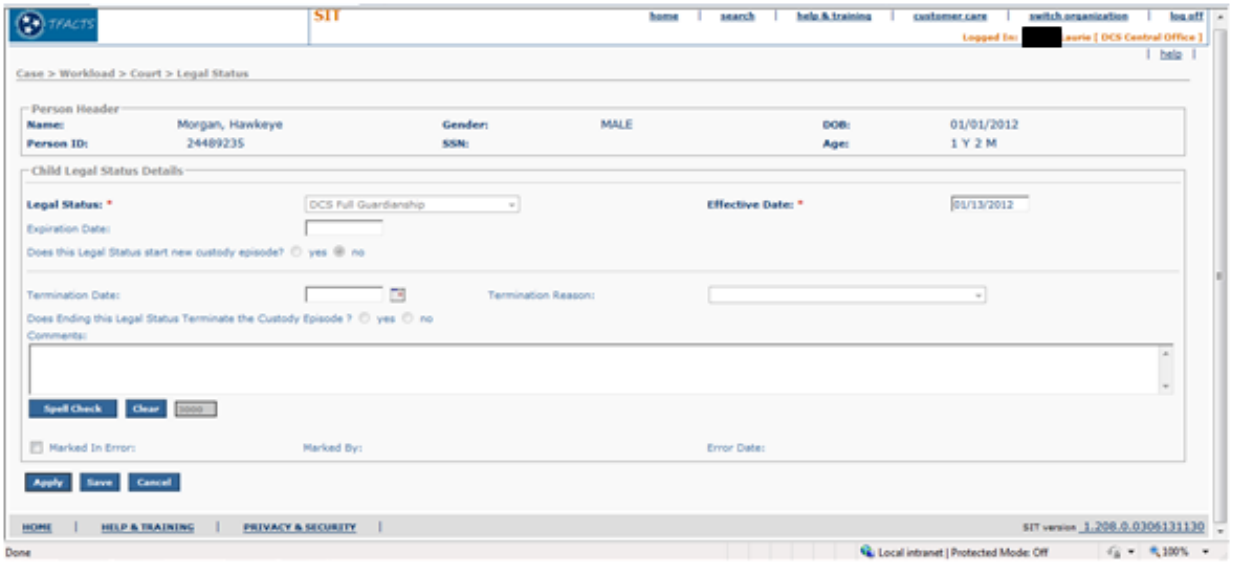
Here you can view the following elements:

Release Reason (called Termination Reason on interface…is reason custody episode ended.)

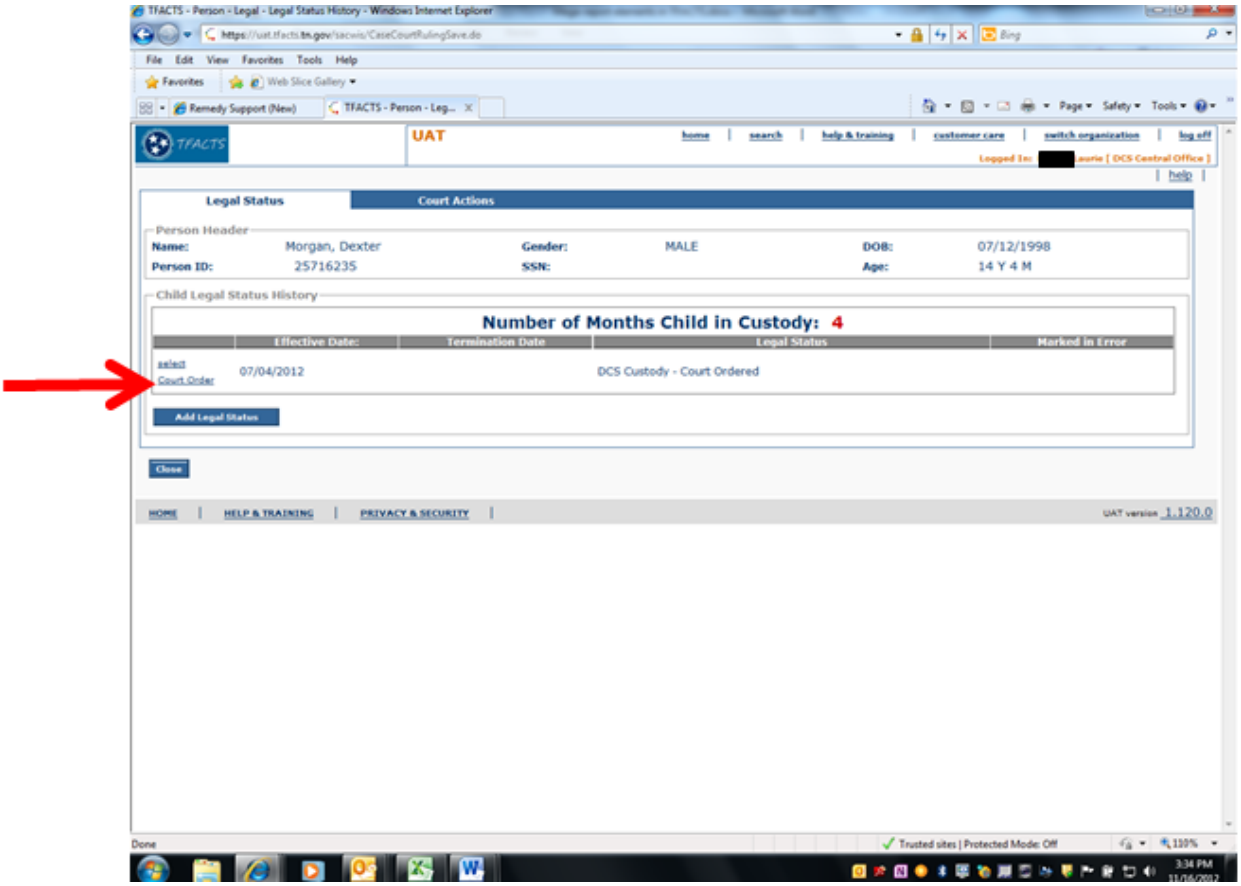
Here are the same screens for the child in Full Guardianship…Legal Status change from Court Ordered Custody…..



To Full Guardianship:

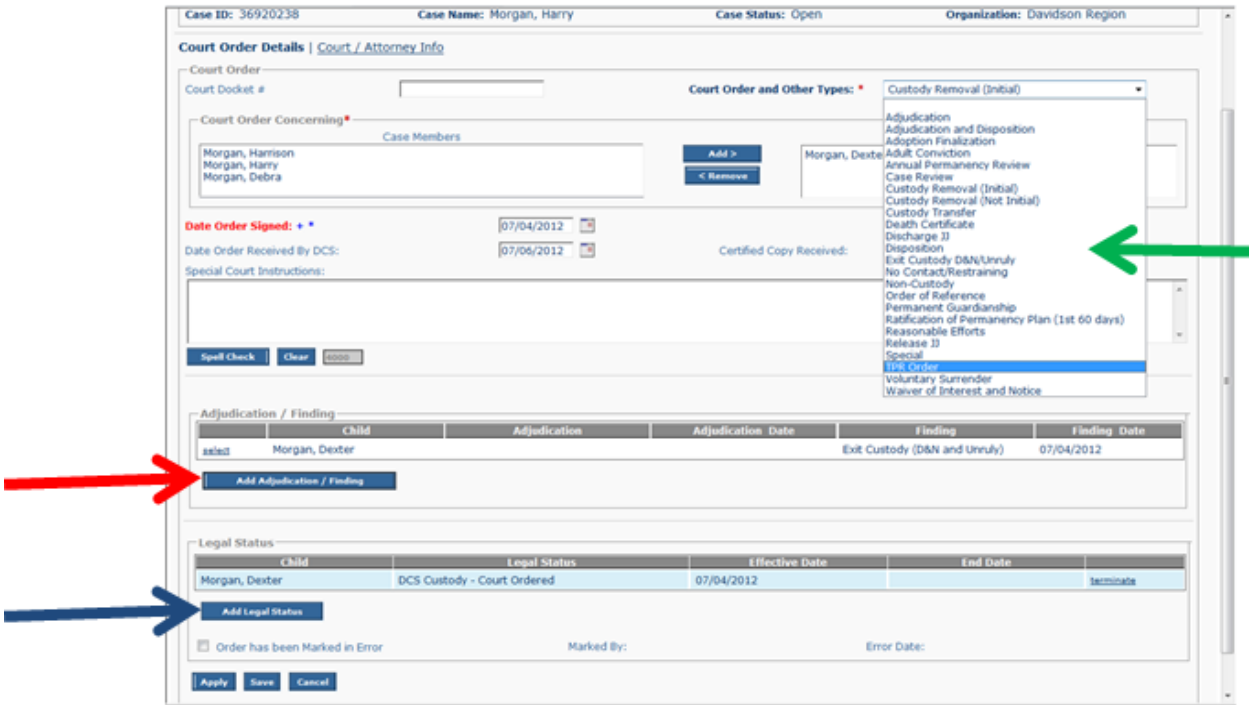


Legal Status History Screen



Now click on the 'Court Order' link.

Court Order Detail Screen



Here you will find the following elements:

Adjudication (To see the detail for each Adjudication row in the Adjudication/Finding list, just click the 'select' link next to the adjudication record you wish to view. The Adjudication Detail screen is the 'source' of this information…where it is entered.)

This is a list of all the Court Order and other types of Case Court Actions. For cases where the following are present, you can find the following elements here on this screen as well:

Guardianship Status

Guardianship Effective Date

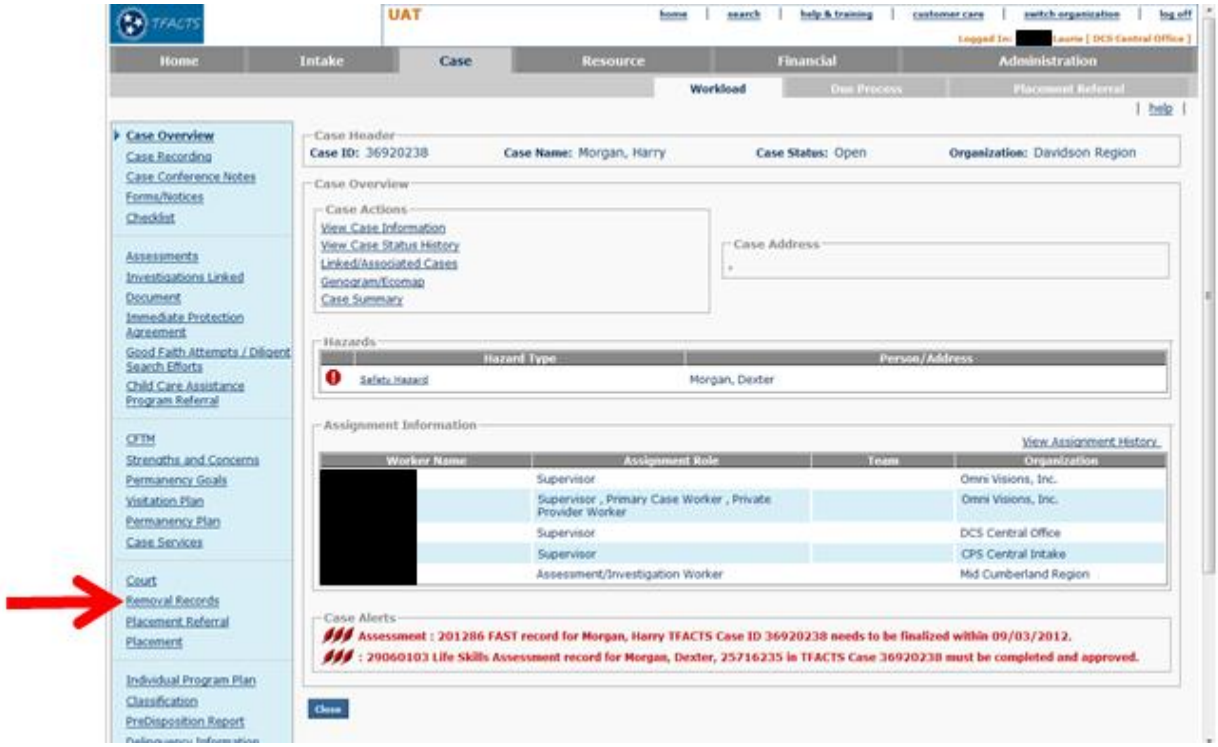
TPR Petition Date – Recorded as a 'Pleading' under case court actions on case of origin

Voluntary Surrender/Certification of Death

Note the 'Add Legal Status' button. Clicking this button takes you to the window where Legal Status information can be entered. This is the 'source' of the Legal Status information displayed on the Legal Status History screen covered previously.

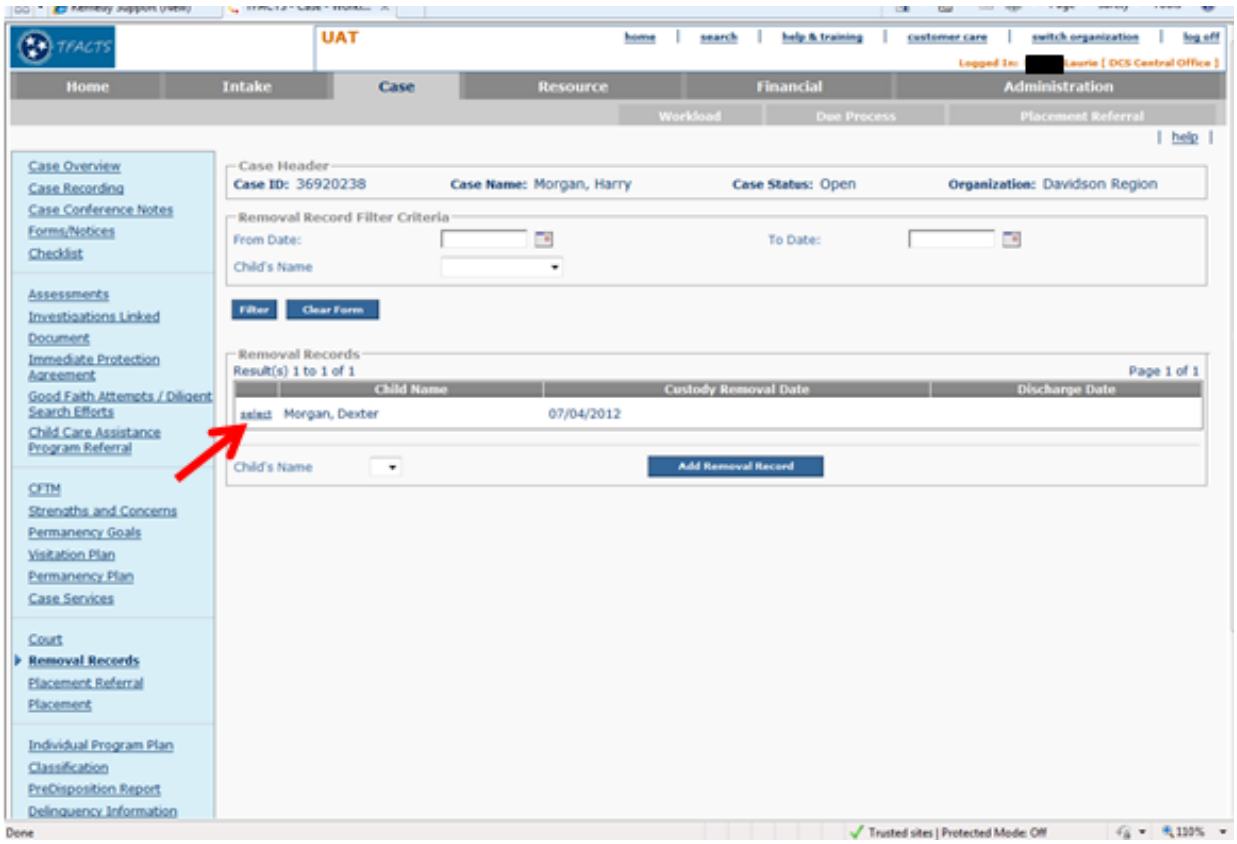
Click ‘Cancel’ and then ‘Close’ to return to the ‘Case Overview Screen’

Case Overview Screen



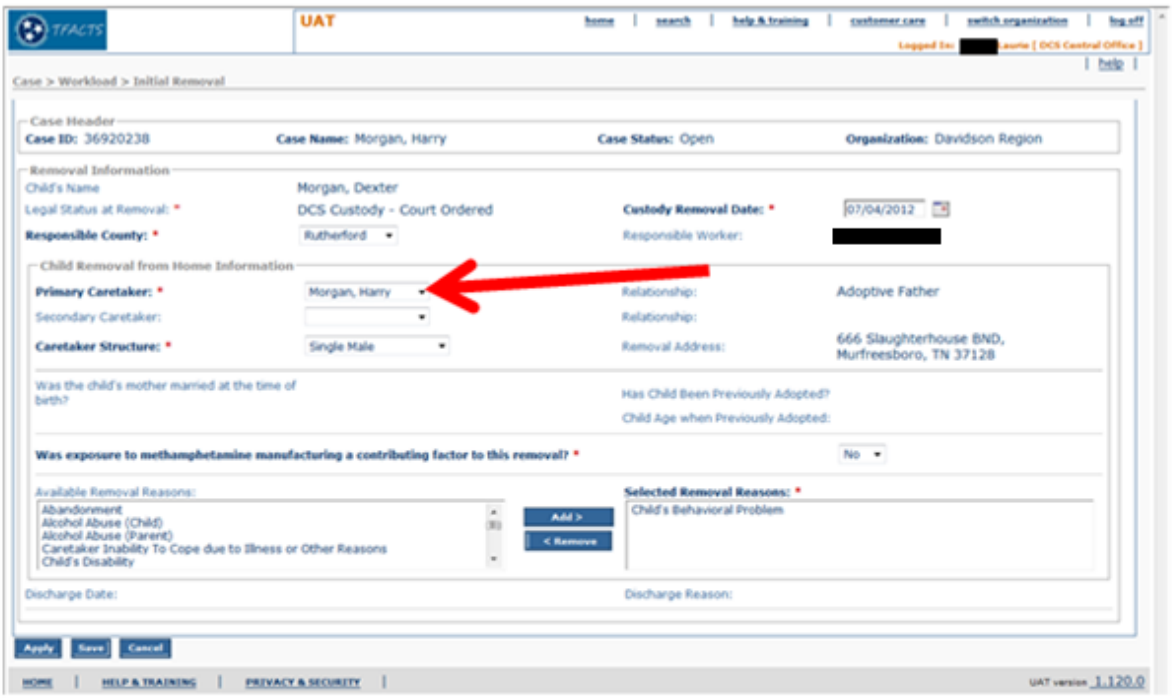
In left side (blue) navigation bar, click the Removal Record link.

Removal Record List Screen



To view details regarding a Removal Record, click the 'select' link next to the Removal Record you wish to view.

Removal Record Detail Screen



Here, the person who is primary caretaker is designated. The following elements are then derived from the Person Address information for that person:

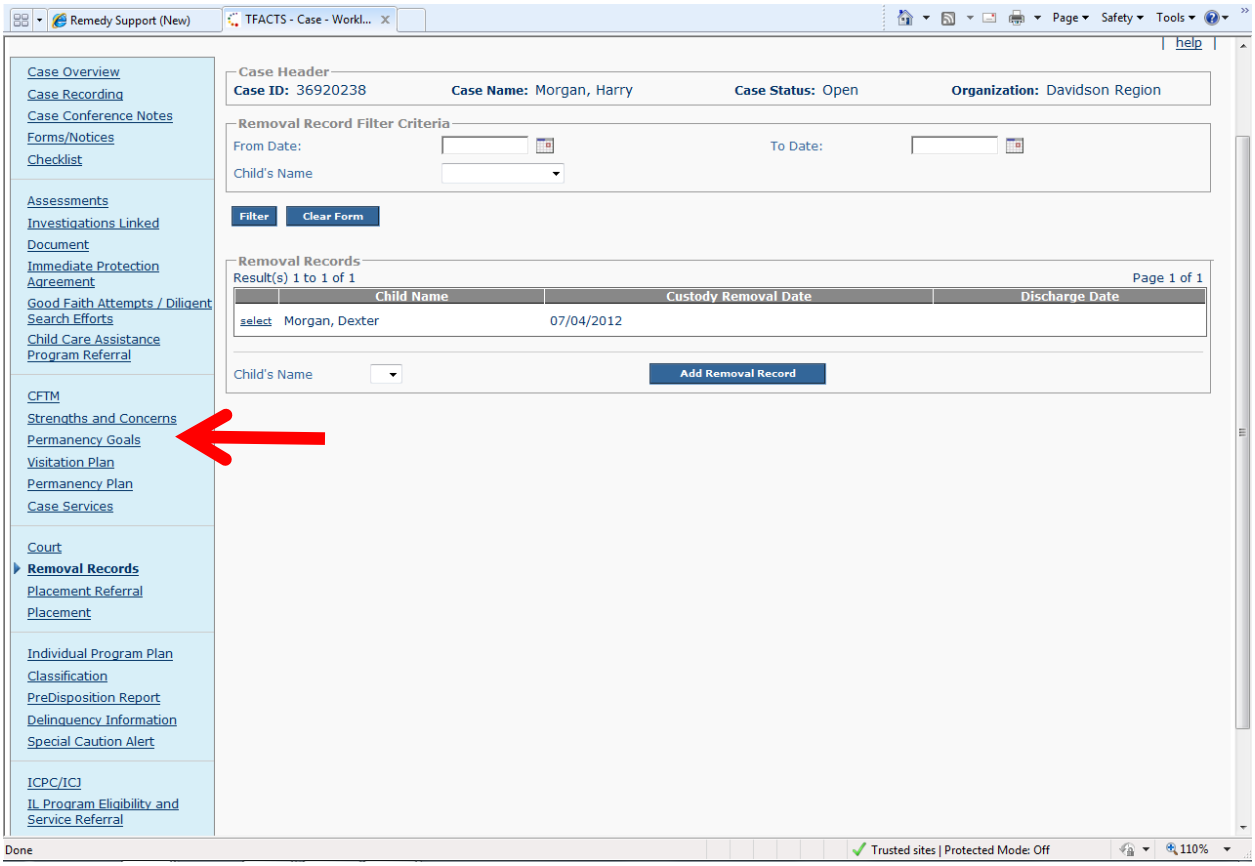
Removal State Removal Zip Code

.

The **Removal County** and the **Removal Region** are not displayed here but are derived based on the City/State/Zip information provided in the address.

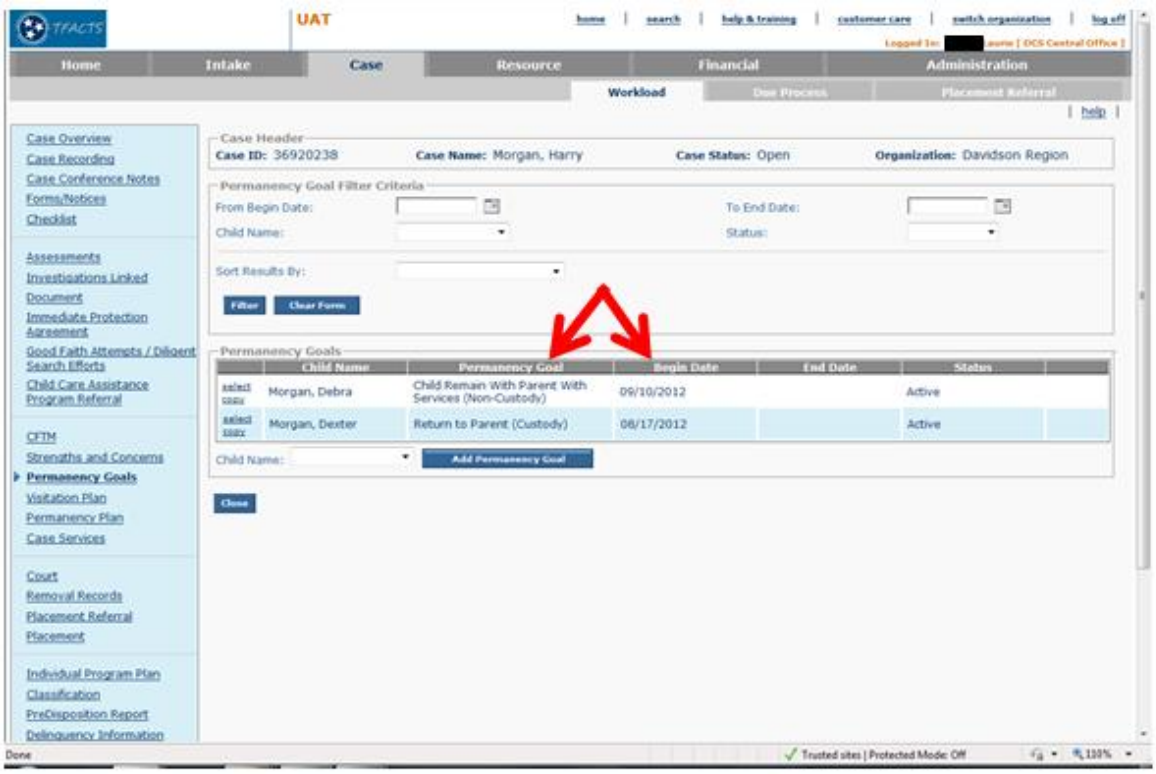
Click ‘Cancel’ to return to the Removal Record List screen.

Removal Record List Screen



Now, click on the Permanency Goals link in left side (blue) navigation.

Permanency Goal List Screen



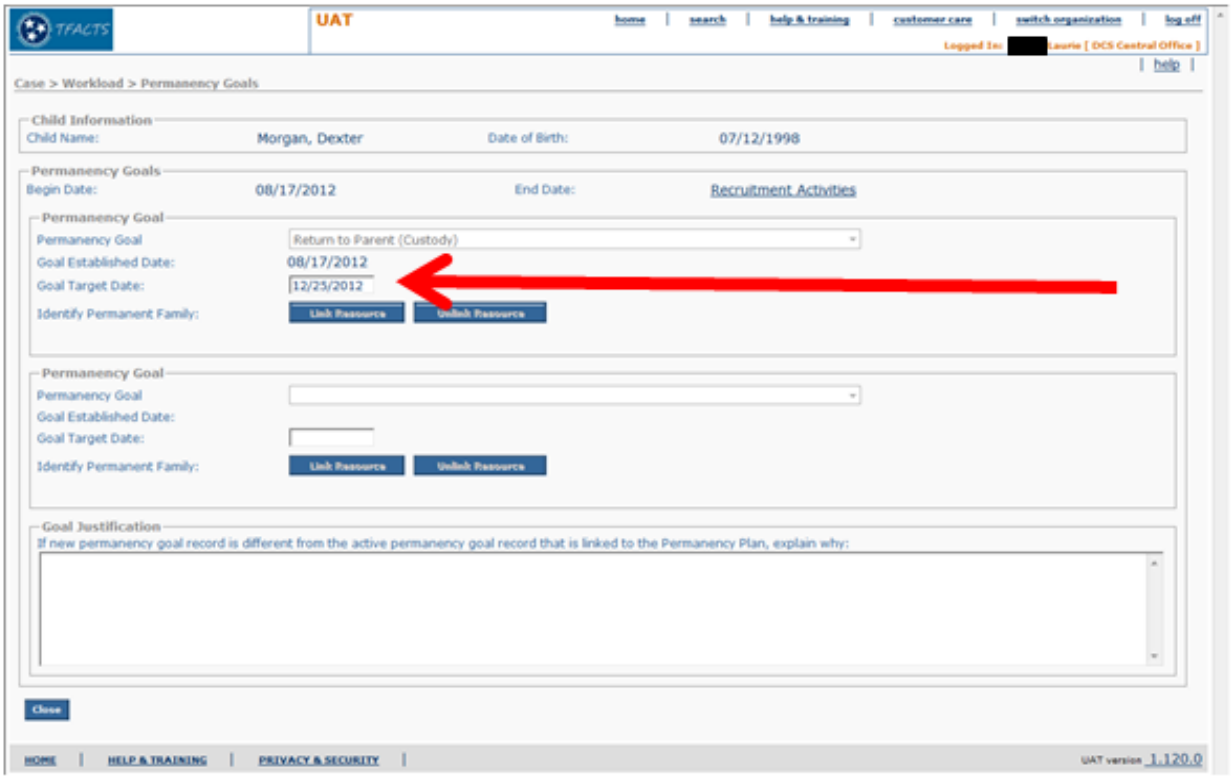
Here you can view the following elements:

Permanency Plan Goals 1&2

Permanency Plan Goals 1&2 Date

To view the detail of a specific permanency goal record, click the ‘select’ link.

Permanency Goal Detail Page



This is your goal information source…it is where goals are entered. The Goal Established Date populated by the system once the goal has been linked to a permanency plan. TFACTS uses the Plan Date to populate the Goal Established element.

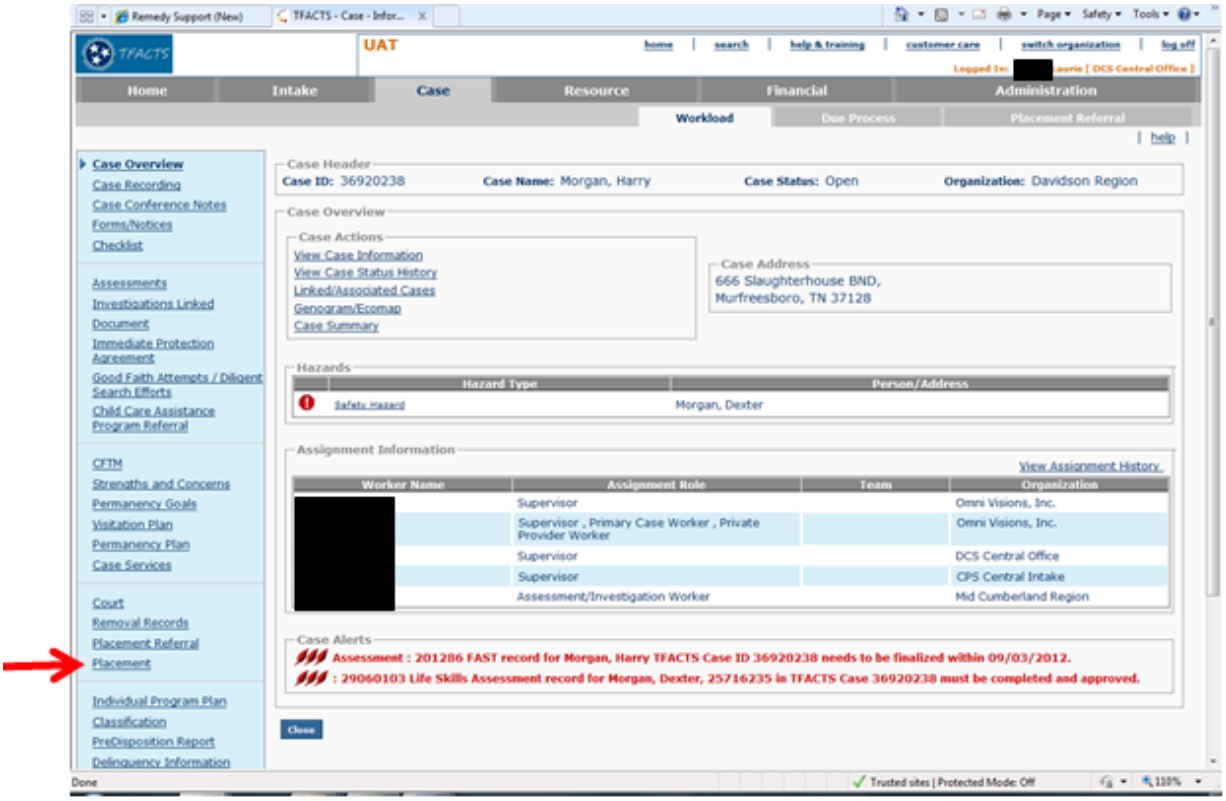
Elements available on this screen are:

Permanency Plan Goals 1&2 Established Date

Permanency Plan Goals 1&2 Target Date

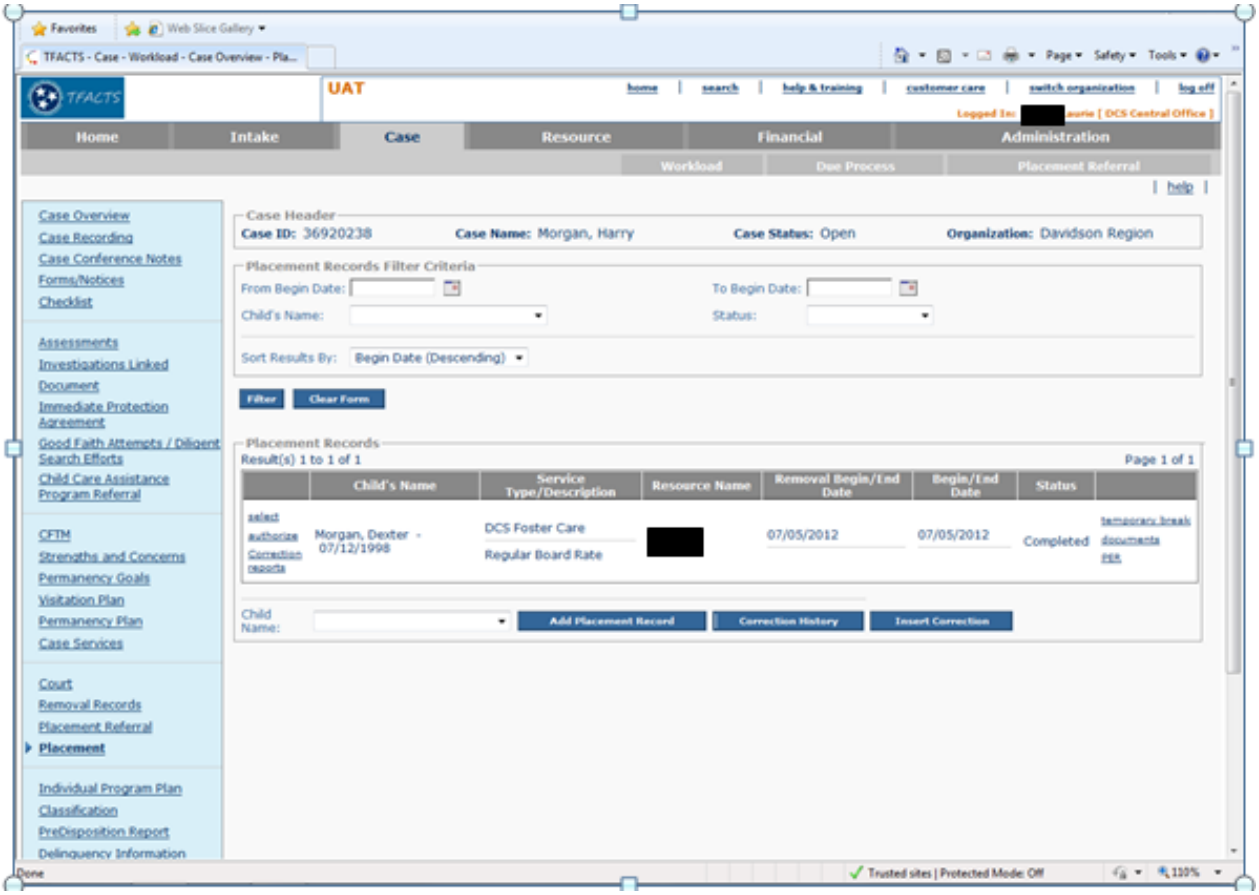
Click ‘Close’ and then ‘Close’ again to return to the Case Overview Screen.

Case Overview Screen



Now click on the Placement link in left side (blue) navigation.

Placement History Screen



All Placements recorded for a person are displayed on this screen.

On this page or through the links on the page, you can view the following elements:

Placement Resource Name

Placement Begin Date

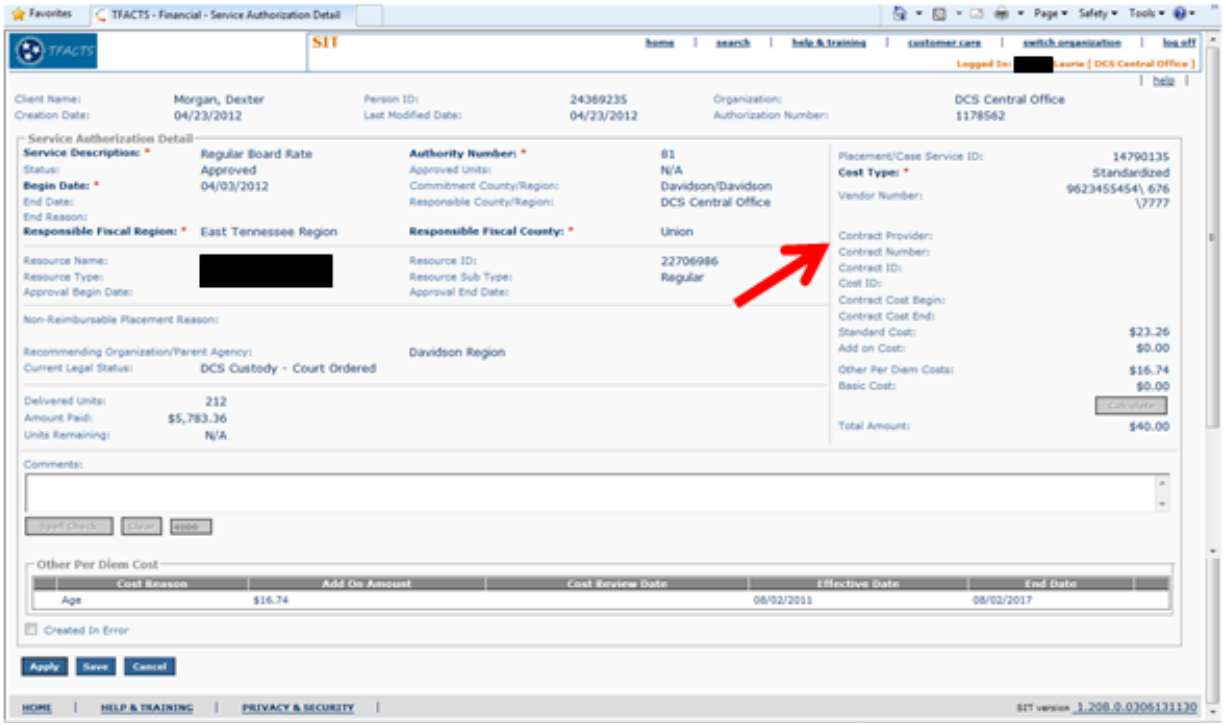
Placement End Date

Placement Type

Placement Setting

Placement Authorization Screen

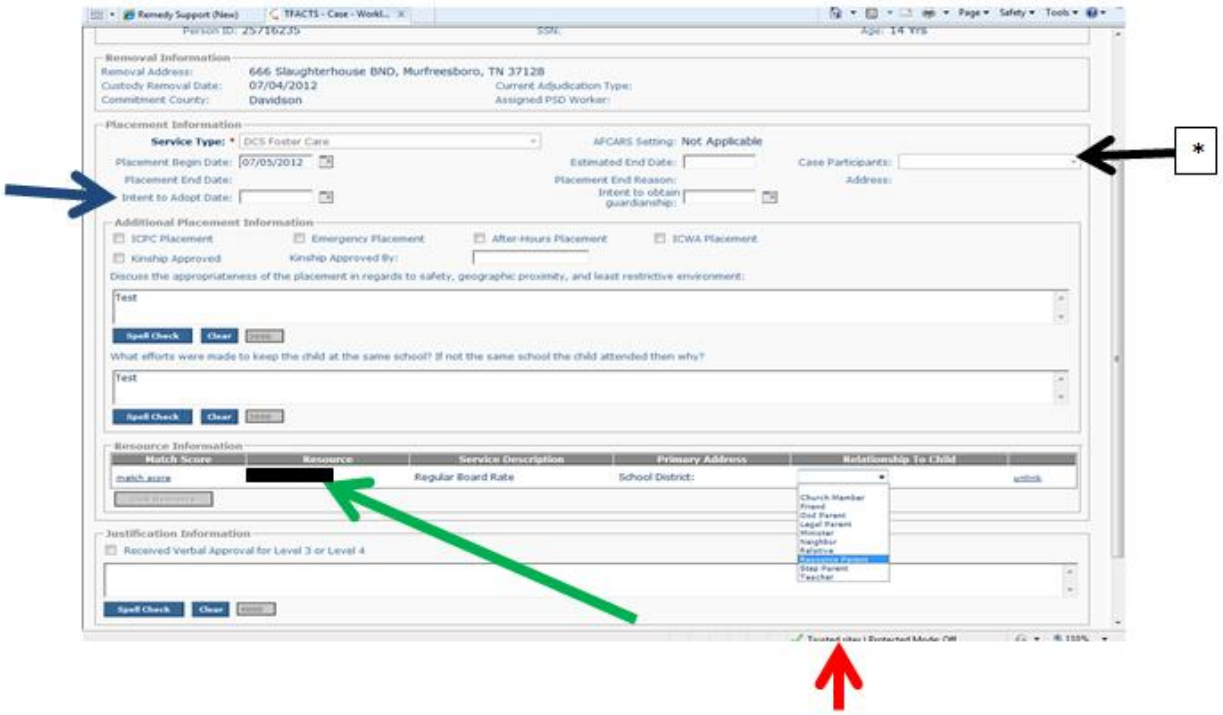
*Click the ‘authorize’ link to view additional information regarding a placement, including financial information:



Contract Provider will display if the child is being served by a residential private provider agency.

To view additional detail about a specific placement record, click the ‘select’ link.

Placement Detail Screen



Here you can view the following elements:

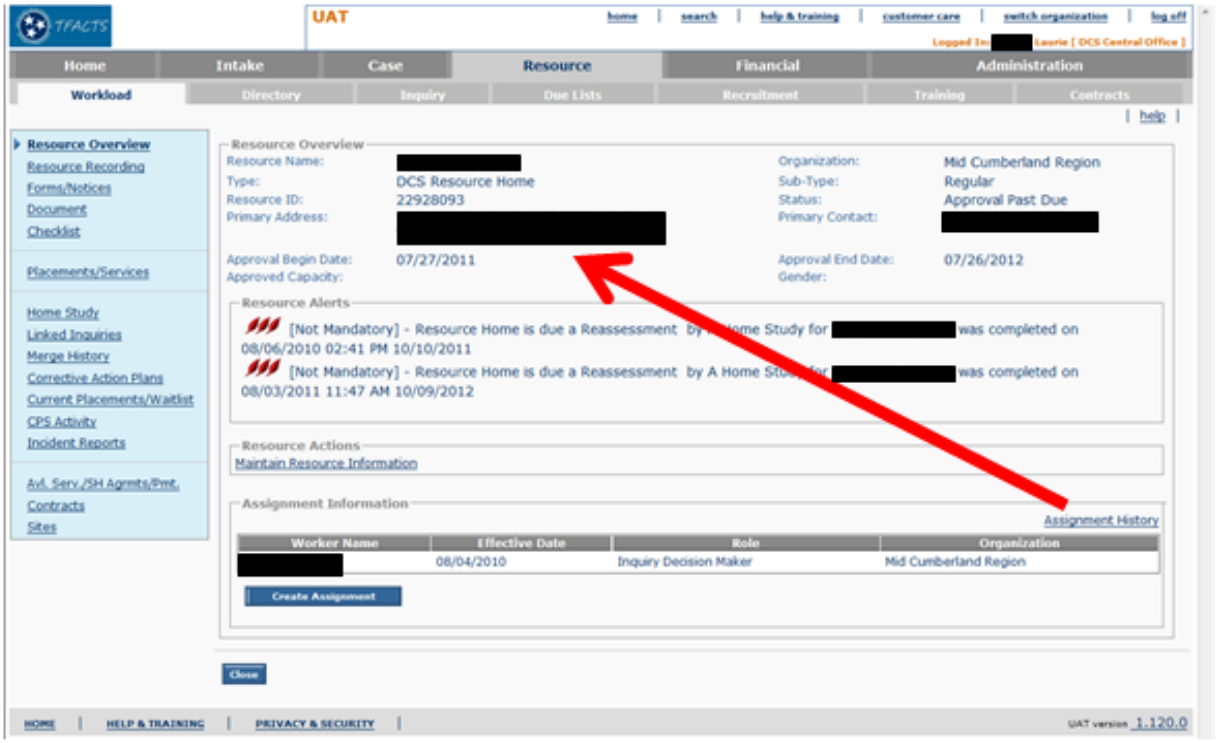
Kinship Role

Intent to Adopt Date

***Note:** For children placed on Trial Home Visit, the Placement Address is derived from the Case Participant's Person Address.

Click on the Resource hyperlink and view the *Resource Overview* screen:

Resource Overview Screen



Here you can view the following elements associated with the placement:

Placement Location

Placement State

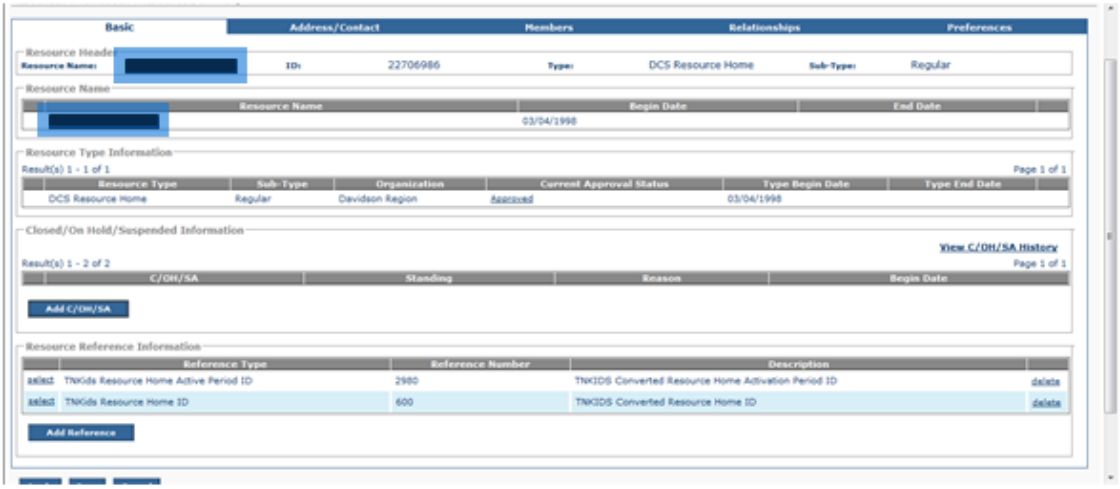
Placement Zip Code

Placement County

Placement Region

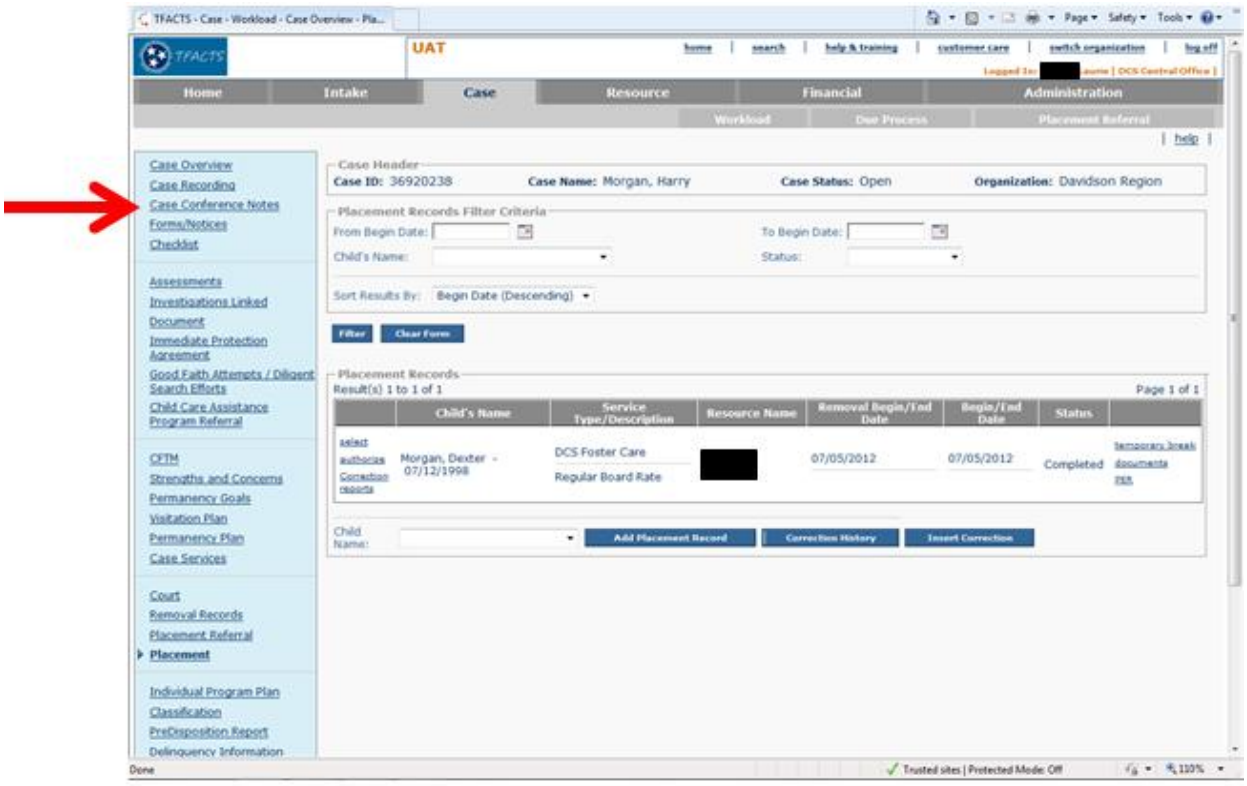
Click on the *Maintain Resource Informtaion* hyperlink to view the “source” or entry point of the information about the resource

Maintain Resource Information Screen



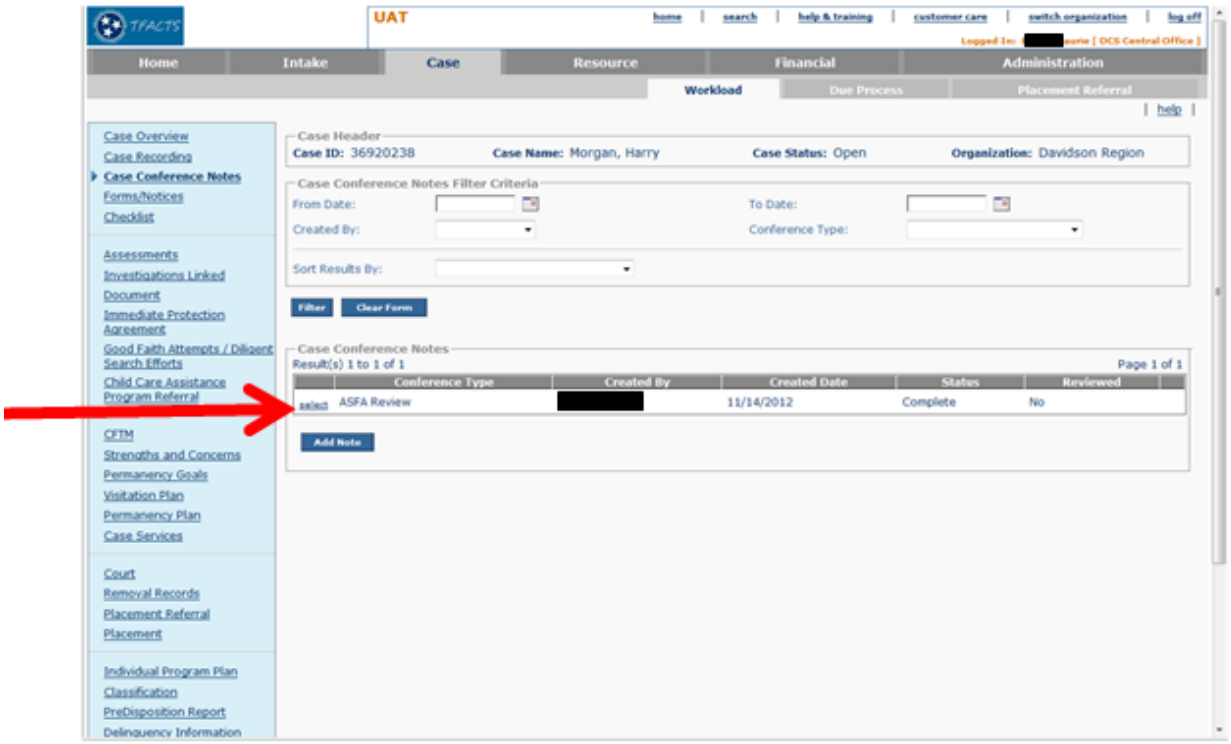
Keep clicking ‘Close’ to exit back to the Placement History Screen.

Placement History Screen



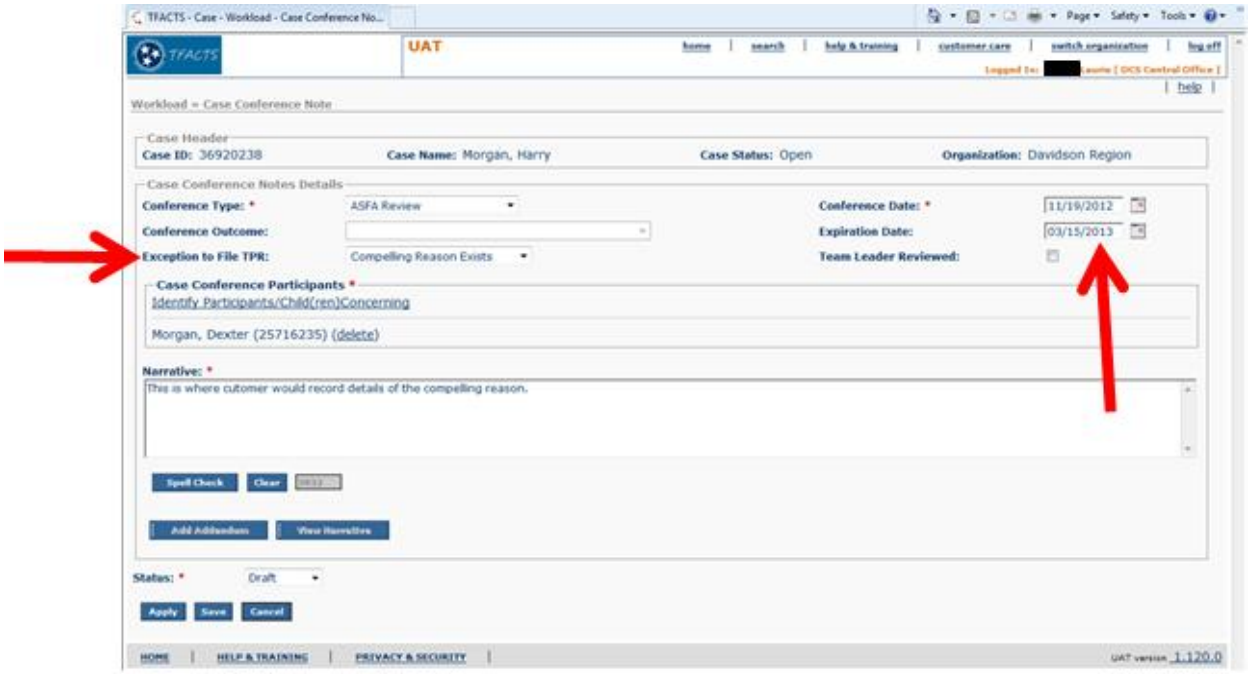
Now, click on the Case Conference Notes link in left side (blue) navigation.

Case Conference Note List Screen



TPR Compelling Reason information is recorded only on ASFA reviews. To view these elements, locate the correct ASFA review in the list and click the 'select' link.

Case Conference Note Detail Page



Here you can view the following elements:

TPR Exception Compelling Reason

TPR Exception Compelling Reason Expiration Date

APPENDIX II

Current Status of *Appendix A* Reporting Capacity

Appendix II: Current Status of *Appendix A* Reporting Capacity			
Relevant Settlement Agreement Section	**TFACTS Report**	**Report Available**	**Report Validated**
III.A	Open Investigations/Assessments Involving *Brian A.* Class Members Assigned to Regional CPS (Non SIU Cases)	Yes	Yes
III.A	CPS Referral by Response Priority	Yes	Yes
III.A	CPS CM Activity Report	No	
III.C	CPS Investigations w/3 or more Referrals for Caregiver/Child	Not Applicable[1]	
V.J	*Brian A.* Caseload Compliance Report	No	
V.K	*Brian A.* Caseload Supervision Report	No	
V.N	*Brian A.* Timeliness of Data Entry (Case Recordings)	Yes	Yes
VI.A.1.a & XVI.B.6	> 75 Miles Placement (*Brian A.* 75 Mile Report)	Yes	Yes
VI.A.1.h	CANS High Risk Assessments (Special Report)	Yes	No
VI.B	CANS Data Extract	Yes	No
VI.H.1-2	*Brian A.* DCS and Private Provider Face to Face New Placement Summary (6 in 60)	Yes	Yes
VI.H.1-2	*Brian A.* DCS and Private Provider Face to Face THV Summary (3 in 30)	Yes	Yes

[1] As discussed in Section Three of the report, the Department's SIU investigation tracking process provides much more extensive and actionable data on repeat reports of abuse and neglect while in care than a periodically produced aggregate report related to three or more reports of abuse or neglect of a child while that child is in DCS custody by the same perpetrator.

Appendix II: Current Status of *Appendix A* Reporting Capacity			
Relevant Settlement Agreement Section	**TFACTS Report**	**Report Available**	**Report Validated**
VII.B,C,F	Initial CFTM Summary (including participants, facilitator, supervisor)	Yes	Yes
VII.B,E	Placement Stability/Disruption CFTM Summary (including participants, facilitator, supervisor)	Yes	Yes
VII.D,F	Initial Perm Plan CFTM Summary (including participants, facilitator, supervisor)	Yes	Yes
VII.F,M	Discharge Planning/THV CFTM Summary (including participants, facilitator, supervisor)	Yes	Yes
VII.K	Quarterly CFTM to Revise/Review Permanency Plan	Yes	Yes
VIII.A & VIII.C.1	Diligent Search Activity Report	No	
VIII.A & VIII.C.1	Diligent Search Exception Report	No	
VIII.C.5.a & XVI.B.4	Filing a Petition to Terminate Parental Rights (70% filed within 3/6 months)	Yes	No
VIII.C.5.b	Length of Time Between TPR Petition and TPR Order of Guardianship	Yes	No